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GLANDERS, FARCY—FARCINOSIS.

BY ALFRED BROAD, F.R.C.V.S., LONDON.

THERE are two diseases affecting our patients, of which it is especially to be desired that we could make prompt and certain diagnosis, seeing that the injury they inflict is so dire, so far reaching, and so perilous to man as well as beast. Unfortunately, this is at times difficult, for of these two disorders—Rabies and Glanders,—the former occasionally has a somewhat obscure commencement, and cases of the latter occur which need the most experienced judgment for their speedy recognition. An illustration of this is given in the cases recorded by Mr. E. L. Dixson, in the VETERINARY JOURNAL for April. He rightly designates them interesting and important; deeply interesting they should be to the student of our profession, as an example of the manner in which the malady will spread disaster, and as suggesting the precautions to be taken to prevent this baneful extension. Mr. Dixson points out that the horse had a nasal discharge and enlarged gland from August 5th to January 30th, and asks, "Is it possible that Glanders was latent during the whole of that period?" The true answer undoubtedly is that it was not latent, but in a subacute or, as it is called, "chronic stage." A deep sense of pity must be felt for the unfortunate man, Mr. Z. C., of whose appearance Mr. Dixson gives so vivid and graphic a description; but it is quite probable that he became inoculated later than when he gave the ball, as, for instance, whilst carrying out the steaming of the nostrils or other attendance. Still a

moral is pointed—*give powders rather than balls in cases of doubt and danger.*

The element of contagion in this disease does indeed remain latent in the system, and I opine that no limit has yet been, nor is likely to be, assigned to its dormant period. But a disease cannot be said to be latent, or hidden, when it has given rise to diagnosable symptomatic disturbance.

There is an idea, only too widespread, that Glanders cannot be declared till ulceration is visible. This is thoroughly erroneous and mischievous.

I have on several occasions, after diagnosing Glanders, *minus* visible ulcers, had to employ the powers of the Contagious Diseases Act to ensure the slaughter of the horse, the owner being unwilling to sanction this procedure, chiefly because he could see no chancres, and being only tardily convinced upon witnessing the state of the lungs and the chancrous ulceration which can almost invariably be found upon the upper region of the septum nasi, though this is of necessity invisible during the animal's life. The specific ulceration, when distinguishable, is undoubtedly an invaluable diagnostic symptom, and it is sometimes but a few inches from the nasal orifice, though still higher than unaided vision can penetrate. Two or three years ago, I exhibited at the Central Veterinary Medical Society's meeting a reflector which I had made for use in these cases; it is circular, large enough to cover the centre of the face, and has a plain glass hole through which a view of the illuminated Schneiderian membrane can be obtained. By the aid of this instrument ulceration can often be rendered visible when, before the examination, its presence could only be guessed at, or was perhaps quite unsuspected.

Origin of the Disease.

Professor Robertson, in his remarks before the Liverpool Veterinary Medical Association, propounds the doctrine that Glanders originates from contagion only. This is, in my opinion, the correct doctrine, the one that should be taught, and the one which, I venture to say, will become more generally received as the nature of the disease is more clearly displayed by the light of scientific investigation. The word contagion is to be used in

a wide sense. It has long been my opinion that the malady is produced solely through the introduction into the system, at some time or another, of a specific organised element or germ.

This view was the outcome of my reflections after examining large numbers of affected horses, both *ante* and *post mortem.* I will therefore endeavour to note some of the facts which influenced my decision.

(1.) The evidence to be found of the contagium lying dormant in the system: (*a*) Upon examination, *post mortem*, the lung changes, with resulting disease foci, sometimes appear to have been long antecedent to the outbreak of symptoms. (*b*) Again, specific miliary "tubercles" are found in horses which have met with accidental death, or have died from simple ailments. (*c*) And in other instances recent specific changes in the lungs have seemed to arise from a few old centres of disease in those organs.

(2.) In many cases, when a horse has shown the disease after remaining healthy for some months in a stable, hitherto free from Glanders, and the case has, therefore, been considered spontaneous, I have elicited that the horse was brought from a source I have known to be contaminated.

(3.) Outbreaks do not occur in proportion only to the prevalence of hard work, poor keep, debilitating diseases, or injuries, but in proportion to the opportunities which have been afforded of contact with the germs of the disease.

(4.) The same influences are found in many cases without the supervention of Glanders and Farcy; but in premises which are, or which have been, much infected, the malady will victimise a horse which may happen to be laid up with almost any ailment or injury; such horse may have previously appeared as healthy as any in the stable. In these cases, when there is a concealed nidus of disease in the lungs, we can conceive a state of system favouring the dissemination of the contained germs. A typical miliary tubercle is surrounded by a dense fibrinous envelope, but in the instances enumerated there is more or less systemic disturbance, the quality of the blood is impaired, and disintegrative absorption favoured, or hyperhæmia occurs around the miliary or other deposits, followed by softening of their contents. Even

in the case of a wound—for instance, a kick on the leg (a common precursor of Farcy in infected stables)—there is a small amount of febrile disturbance, and the effect produced on the nervous system by the injury influences the nutrition of the tissues, and thus disturbs the relation existing between the dormant germs and the surrounding lung tissue. This systemic irritation from a comparatively trivial injury requires no great effort of imagination for its conception, when we reflect on the etiology of Tetanus.

(5.) The decidedly specific unvarying nature of the disease as a whole, and the power of the virus produced in it to cause in other healthy animals just this identical affection, and this only, favour the idea of its production from a germ which itself possessed the same wonderful powers. Surely the production *de novo* of a minute organism which can carry within itself the ability thus to dictate in exactly what way the animal system shall be affected by it, would be as wonderful an instance of creation as the spontaneous origination of a seed of the garden from the soil.

Before leaving the subject, I would reiterate my belief in the desirability of naming the disease—this malady of which we can but describe Farcy and Glanders as two manifestations, and I venture to suggest the word Farcinosis. Did space permit I would give my defence of the appellation, as well as reasons for the necessity of giving a name, though I have touched upon this subject in the VETERINARY JOURNAL for 1880. Mr. Fleming's suggestion for a reform in our nosology is excellently timed and should receive attention.

RABIES.

BY THE SAME.

I ALLUDED to Rabies as a disorder in which we could not in every instance diagnose as early as could be desired. Doubtful cases occur, in which, beyond a disposition to bite, nothing very distinctive or abnormal is to be noticed till death somewhat suddenly closes the scene. In two cases, recently under my care, symptoms rather unusual presented themselves, while others commonly expected were absent.

Case 1.—Small thickset collie, two years old; slight scar on nose from a wound received in unknown manner in October last. Illness first noticed on 29th November, the signs being dulness, loss of appetite, swelling and closure of right eyelids. Howling commenced on the 30th. The dog was sent away to a stable a mile distant, but found his way home in three hours.

I was first called in on the evening of December 1st, and noted the following symptoms: lower jaw dropped, leaving the mouth open an inch and a half; tongue pendulous, and covered with black coating; right eyelids partially closed, conjunctiva inflamed and covered with muco-purulent discharge; intense irritation round the right ear and on the right side of face, causing the dog to scratch the part violently and persistently till he howled from pain, though not with the howl peculiar to Rabies. He also cried out when an attempt was made to examine the part, and any touch on that side of the face brought up the hind leg forcibly and spasmodically scratching. The skin was darkly reddened in that region. There was no disposition to bite or gnaw, the dog was quiet, and disposed to get out of sight.

December 2nd, patient worse; tongue protruded and pendulous from the right side; he suffered much and was desirous of sympathy, courting notice from those he was specially attached to. He could only lap water into a froth, being unable to swallow. He was in such a terrible condition of uneasiness that I considered it right to administer a dose of hydrocyanic acid.

Result of Hasty Post-mortem.—Mucous membrane of stomach much inflamed and bile-stained; liver large, congested, and friable; much greenish discharge about fauces.

Case 2.—Large, rough, black-and-tan terrier, seven years old, not believed to have been bitten. Appeared well till March 13th last, then became dull, showed distension of abdomen, and was sick, his owner describing the vomit as fæcal. Castor oil was given, and these symptoms abated. On this day he flew at, and bit, the house cat and collie, and about this time began to gnaw his mats and carpet. On the 14th and 15th he was frequently seized with a sudden desire to micturate, and would rush to the garden, and pass urine very freely, with diarrhœaic ejection at the same time. Owner noticed alteration of voice on the 15th.

On this day I first examined the dog. He was lying before the fire, extremely dull; no symptom or act was mentioned to me except the sudden seizures of diarrhœa, etc.; so I handled and examined him with no more than ordinary precautions. There was a small eczematous ulcer on the chin. He frequently licked the penis persistently.

17th. Bowel disturbance less, the licking of penis continued, also the spasmodic urination, accompanied by a peculiar half opening of the mouth, as if the act were painful. He tore his carpet and howled with a hoarse voice; his manner was strange. I had him chained securely.

18th. More wild and strange in manner, voice more muffled and hoarse; he frequently leaped up, as if at an imaginary object, and gave vent to singularly hoarse howls; flew savagely at any stick put within his reach, had gnawed his box to pieces, and bitten large plates and jam pots put near him into fragments. He lapped and swallowed beef-tea, milk, or water fairly well, and ate bread which was mixed with the milk. There was no dropping of jaw or foaming at the mouth.

19th. Bowels acted naturally, manner more subdued, muffled howling frequent.

He died on the 20th at about 9.0 a.m.

Post-mortem Examination.—Slight congestion on the roof of nasal passage; rima glottidis nearly closed from swelling of the membrane; this, as well as the congested interior of the larynx, was coated with dusky mucus; parotid glands dark in colour, hyperhæmic and yellowish in parts. Mucous membrane of stomach much congested on the ridges of the folds; no abnormal contents. Internal lining of duodenum showed most intense inflammation in large dark claret-coloured patches, and in regular markings of the same upon the folds lower down. Liver appeared healthy, kidneys also, but large. Spleen much enlarged, about eight inches in length and one inch in thickness, soft and pulpy, being distended with dark, depraved-looking blood; at one or two places on the edge of the organ the tissue was of its natural colour and tension, and at about the centre was a small isthmus of spleen with the same healthy appearance. The body and organs generally were full of dark, venous-coloured blood.

FEBRIS HÆMATOBIÆ EQUORUM.

BY RICHARD W. BURKE, M.R.C.V.S., A.V.D., WOOLWICH.

A FORM of fever which has prevailed with varying degrees of severity among the horses of my batteries in the camp, and among others round and about the camp and in the garrison, for rather more than two months, which some persons called common Cold, others designated Epizoötic Fever, and I for the time regarded as "Influenza," has induced me to study it with rather more than ordinary care, and the result of that study enables me to say with some definiteness that it is in its origin a disease of the circulation. The fever possessing evening exacerbations; the extreme nervous prostration (*neurasthenia acuta*); the œdema and tumefaction of the eyelids, throat, and extremities; the feeble, intermittent character of the pulse; the weakened heart; the languid circulation; the congestions and submucous extravasations; the progressive and marked debility; extravasations and serous infiltrations of muscular structures and internal organs, etc.,—are all the simple effects of a hæmatobium in the blood, which is, moreover, demonstrable in the urine, and *probably* also in other secretions and excretions of the body.

Hitherto in this country we have been slow to move in the matter of determining the contagiousness of certain diseases; but now that more attention is being paid to the improvement of our science, so far as improvement can be promoted by bringing to a focus the varied means and appliances incidental to present modes of inquiry into the nature of disease, we are not likely to weary of the work till all the good which can be derived from such inquiry has been obtained.

The disease was once about to abate, so I thought, by the progressive disappearance of severer cases during the close of last month (January), when two deaths occurred, which made me apprehensive lest the sudden succession of similar cases should draw upon me reprehension, and upon Government loss. Thereupon I resolved to note the symptoms of cases oftener during the day, and with more than ordinary care, so as to arrive at some definite clue with regard to their nature, and therewith the best means to arrest their cause—treatment.

Towards approaching convalescence in my cases, when the pyrexia had all but receded, I ceased to give much medicine, and waited until I should learn the doom of the disease uninterrupted, at least to an extent circumstances would permit at the imminent hazard of again encountering the "frown" of fever, the effect of which, to borrow the convenient but objectionable term, "withered" the patient's very blood within him—corpuscles at least.

To turn now to the subject of the hæmatobium. Considering how often in questions of the kind the opinions of the most eminent authorities are liable to be open to objection, I was reluctant to make the accompanying drawing with my own hand. I therefore obtained the assistance of Mr. J. C. Dwyer, A.V.D., whose sketch is herewith appended—Fig. I. The worm,

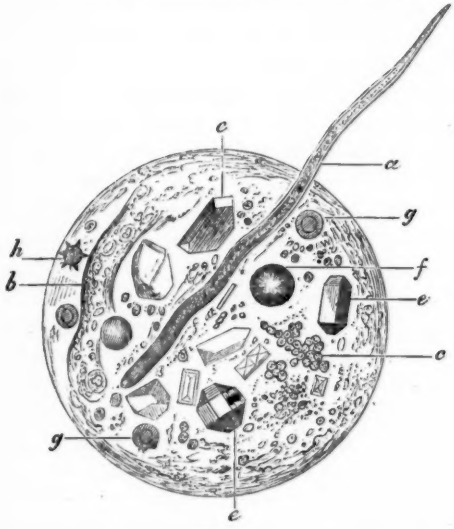

FIG. I.

a, Hæmatobium equi; *b*, Tube-cast from kidney; *c*, Pus cells; *e*, Prismatic crystals of earthy phosphates; *f*, Carbonate of lime; *g*, Urate of soda; *h*, Urate of soda, surrounded by stellate spikes of uric acid. Magnified 220 diameters.

as it here appears, magnified two hundred times its diameter, is about two and a half inches in length. Its body is of a uniform

thickness, slightly tapering towards the tail, the extremity of which is somewhat blunt. This worm seemed encased in a second coat so delicate in its structure that the finest crow-quill would have been unable to produce even a near representation, or the best description convey an adequate idea of it. Laterally the coat was marked by similarly delicate striæ. In the interior of all there seemed a space occupied with granular or small cellular matter. The head of the worm inclined to be oval in shape, and presented a double appearance.

[Of the two sets of microscopes, one with sliding stages and the other without, I would recommend the use of the former kind for observations of this sort; but if the latter be used the glass slide must be moved up and down with the ends of the thumbs, so as to enable the observer to scrutinize the *whole* of the drop of blood or urine under the cover-glass, as usually he may expect to find not more than *one* worm in each drop of the fluid examined.]

In the cases only where the temperature of the rectum from the onset exceeds 103°, and in which the pulse is obstinately intermittent, and evening exacerbations of temperature occur, do I consider it as the fever proper, the fever I have described, and not otherwise. On a collective consideration of the various features of the disease, I am dubious as to whether it is in all respects akin to the common type of "Influenza" as it prevails in this country and on the Continent. On the contrary, I find there is an absolute surfeit of evidence, deduced from something more than *primâ-facie* grounds, which points in an unerring manner to the fact that the two conditions are widely diverse rather than exactly alike. I shall now simply content myself with placing before the reader these various evidences, and leave him to assimilate or contrast them as he pleases. This will place him in a proper position to judge of their likeness or otherwise to the phases of that usual type of fever which he is acquainted with in this country.

On examination of the anatomical features of the peculiar worm which gives rise to the conditions now under consideration, and which I have just detailed, I find it to be very intimately allied to one demonstrated by Dr. John Harley as taking man

for its host in Southern Africa, and the symptoms of which were extreme nervous prostration and a bloodiness (hæmaturia) of the urine.*

Our most distinguished and practical microscopist, Dr. Lionel S. Beale, has described not very dissimilar worms in the muscular tissue of animals suffering from Cattle Plague, 1866.†

Dr. Lewis has, again, met with (1870) somewhat similar worms in chylous urine.‡ I have therefore been special in my description of its structure, in the hope that those specialists of helminthology who have devoted their energies to the subject may be in a position to pronounce an opinion on the case. I regret that, owing to the sudden termination of the disease just as I had begun my examination, I was unable to continue it, and I had opportunity for the examination of but two cases. I trust that, should any professional brother at some future day be more fortunate than I, he will not fail to avail himself of the chance,§ and supplement my observations. After the examination of a number of drops of urine, I was gratified by the discovery also of two ova, one of which was of a perfectly oval shape, while to the other was appended a caudal (?) extremity, which I have figured in Fig. II. The worm I found in the blood

FIG. II.

Ovum of Hæmatobium equi from the urine. *a*, Operculum or lid (?); *b*, Caudal (?) extremity. Magnified 220 diameters.

of the second mare was possessed of a well-defined central canal. This I showed to the Inspecting Veterinary Officer, Mr. J. J. Meyrick, F.R.C.V.S., who suggested that it might possibly represent the alimentary canal.

* Med. Chir. Trans., vol. xlvii., p. 55, 1864.

† See also paper by Dr. Cobbold, *Lancet*, 1866.

‡ "On a Hæmatozoön inhabiting Human Blood; its Relation to Chylous Urine and other Diseases," by Dr. Lewis, 1872.

§ Casus ubique valet; semper tibi pendeat hamus.
Quo minimè credas gurgitæ, piscis erit.—*Ovid.*

In some mysterious manner, for which it is difficult to account, a belief has been gaining ground on the members of the profession within late years that *globular bacteria* are the specific causes of Glanders. Now I have examined these bacteria in the later stages of the fever I now describe, as well as in Septicæmia occurring in the horse, and I find there is not a tittle of evidence for this assumption, inasmuch as they are morphologically identical under all these conditions. It is amply demonstrated, by those who have devoted most of their time to the study of the microscope, that bacteria increase and multiply in all portions of the body, solid or liquid, which are in communication with the external air, whenever their vitality is lowered, that is to say, where disintegration and decay, anticipatory of death, have once set in. For instance, in most specific fevers where the pyrexia is abnormally high the blood undergoes marked changes in its constitution, and the corpuscles break up, which at once explains the abundant presence of bacteria in all the stages of these fevers. It is useless for autocratic authorities, 'with a wave of the wand, or the pressing of the ring against the lamp,' to attempt to convert the accidental into the specific. Drawings of the bacteria referred to are given in Fig. III.

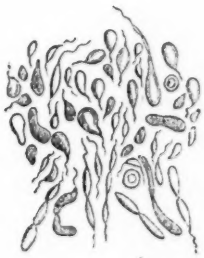

FIG. III.

Characters and Semeiology.

The fever manifests itself among the healthy with slow and measured pulsations, and no sooner does it approach its maximum activity than it loses power, stops, and then begins to recede in the same gradual and regular manner—the pyrexia subsides;

the transition from the one to the other being characterised by a sudden fall in the pulse and temperature of affected animals—which is one proof of the plausibility of the theory of elimination *per naturalis vias.*

It is held that most, if not all, specific fevers attain their greatest severity at their first appearance, and that this diminishes with time, and gradually becomes milder as it is about to quit the particular locum. This, however, is so far from being correct that some of the worst cases of this fever occurred just when its spread and intensity were about to abate.

Many diseases are either entirely protective, or they have the power of diminishing in intensity subsequent attacks. Thus, an animal will resist infection because of the immunity it has acquired through one or more attacks of pre-infection. It is certain that this is not so in every disease; and the recent outbreak of the fever was eminently one to furnish such an instance. Only during last month I had a case under treatment which, admitted into the infirmary with high pyrexia and a weak, intermittent pulse, was in due course cured and discharged, and shortly after she was again attacked, bearing identical symptoms and signs of the primary disease;* the pulse, despite the tonicity excited by the administration of digitalis and alcohol, remaining imperceptible, which necessitated a visual examination of the carotid pulsation at the base of the neck. It is more particularly in these cases that the veterinary physician will deem it expedient to arouse the heart's action, and promote the fluidity of the blood, by drastic remedies, in order to combat early those untoward effects of cardiac debility which lead to thrombosis and sudden death. The aforenamed symptoms have characterised the prevalent type of the fever; while catarrh of the respiratory mucous membranes, icterus, constipation of the bowels, alternated in some cases with fœtid diarrhœa, and often tympany—due to paralysis of the sympathetic system, loss of tone of muscular wall, impaired peristalsis, and defective glandular secretion—specific conjunctivitis, ophthalmia with effusion into the anterior chamber of the eye and opacity of the cornea, etc., with those

* Reference to the Veterinary History Sheets of cases shows that over six animals suffered *twice* from the same disease.

already detailed, were the principal symptoms noticeable in the other cases.

Professor W. Robertson,* of the London Veterinary College, observes,—"A form of the Catarrhal type of Influenza, occasionally prevalent in certain seasons and in particular localities, has been during late years so distinctly marked, and possessed of certain leading features so striking, notably the colour of the conjunctival membrane, that it has by many been regarded and spoken of as a distinct and separate affection, under the name of Pink-eye or Epizoötic Cellulitis." Professor Dieckerhoff,† of the Berlin Veterinary School, terms it Erysipelatous Inflammation of the conjunctiva. While I do not altogether object to the use of either of these terms, in so far as the fever I am now describing it is concerned, I am of opinion that the designation *Specific Conjunctivitis*‡ is the most appropriate, and therefore to be preferred, because while the two former are intended to characterise the visible changes consequent on the action of the disease, the last-named indicates more approximately the nature of its cause —while the one describes the effects of the disease, the other explains its ultimate causation.

When the fever shows a tendency to pronounce its effects on any particular organ the symptoms noticeable in the other cases are in proportion mitigated, and the disease assumes from the onset its original character, that is, it exhibits symptoms of disorder of the organ or part first attacked.

Different cases, again, present different degrees of severity, and not infrequently serious, and even fatal, complications arise. Death§ in the two cases referred to occurred, in the one from *ante-mortem* cardiac clotting, in the other from gangrene of the lung.

I have observed that the pyrexia, in the worst cases of the disease, *usually presents evening exacerbations*, the rise and fall

* "Lectures on Hippopathology," *Veterinarian*, 1881.

† "Equine Distemper (Influenza Erysipelatosa Equorum)," VETERINARY JOURNAL, 1881.

‡ The meaning of the term *specific*, as used in the study of pathology, has been elsewhere explained. The reader may consult Dr. E. Long Fox on "The Nature of Specific Diseases."

§ The *post-mortem* appearances of these cases are detailed on the Veterinary History Sheets forwarded to the office of the Principal Veterinary Surgeon.

being denoted by 99°—107° F. This feature of the disease, in so far as I am aware, has not been noted by previous observers, if we are to look upon it and Influenza as identical conditions.

Mode of Action.—How are we to account for the diverse manifestations of the accompanying symptoms of different cases? Can it be that the ultra-susceptibility of certain parts renders them more prone to the insidious approaches of the disease either through the inherent weakness or otherwise of specific organs? or is it that the hæmatobium will more naturally fasten itself to certain parts as in silent and fatal acknowledgment of the discovery of the habitat assigned to it by the very order of things? In other words, can we by the prevention of the undermining to weakness or otherwise of certain parts stave off the fell disease? or is it by its very nature unpreventable as attaching to certain organs? Or is it, indeed, independent of either of these considerations? and are we still groping in the murky night of the beginning of the appreciation of the true cause? When one represents the first of these views as affording the right explanation, it may be said in objection to it that the second and third might be equally applicable according to some other authority, and yet, perhaps, all be to a certain extent right.

Prognosis.

In all cases in which the pulse rises to and exceeds 100 beats per minute; in which the temperature of the rectum registers 106° F. and over; in which there is much fœtor of the breath, with an inky staining of the epithelium covering the dorsum of the tongue, indicative of lung disintegration and gangrene; and in which the convalescence is protracted, or a relapse occurs,—I look upon the prognosis as unfavourable. It is more particularly in those cases of delayed convalescence in which the pyrexia recedes and recurs with intervening periods of respite that I apprehend sudden death taking place from *ante-mortem* cardiac thrombosis—syncope.

Phenomena of Death.

A knowledge of how death occurs in any case or cases is a more efficient help at the sick-stall than such knowledge of treat-

ment as is to be obtained only from blind experience and blind calculation of visible symptoms. "Long experience may make the symptom-treating practitioner more successful," says Dr. J. C. B. Williams,* "if he be an observing man; because it will acquaint him with additional symptoms to be considered for the guidance of the treatment. But there are few of this class of practitioners who are carefully observing men, who do remember and profit by their experience: they more generally, like their sisters the nurses, keep pretty close to their first notions; and although age and the name of experience may screen *their* † failures, alas for the young adventurer who sets sail on this tack!"

An inquiry into the modes of death, says Dr. Watson, "teaches us what we have to guard against, what we must strive to avert in different cases." Until we have comprehended what it *is* we have to cope with in the treatment of disease, an unintelligible confusion of facts must of a necessity prevail in our ranks, and we shall be left to revel in blind empiricism. Hence the great importance that attaches to the study of the phenomena of death.

Death is imminent in this disease, owing to the influence of one or more of the following causes‡ :—

1. *Asphyxia*, as the result of œdema of the throat and larynx.

2. *Apnœa*, as the result of pulmonary congestion and mechanical obstruction—from effusion of serum, and extravasation, into the air cells and bronchi, and from pressure upon them. (b) From plugging of the pulmonary blood-vessels with blood coagula. (c) From hydrothorax. (d) From destruction of lung tissue as the result of gangrene.

3. *Dyspnœa*, as the result of stasis or paralyzed condition of the red corpuscles of the blood, preventing the conveyance of a necessary amount of oxygen for combustion.

4. From the serious injury which is inflicted on the medulla oblongata and spinalis, through the action of this altered blood when the function of the red corpuscles is arrested. (b) From

* "Principles of Medicine," 1848, p. 523.

† "Fit erranti medicina confessio."

‡ Extracted from "Principles and Practice of Veterinary Medicine," by Prof. W. Williams, 1874, p. 84.

paralysis of the centre of respiration, and also that of the vagus, consequent on the irritation produced by the presence of superabundant heat in the circulating fluid (Berkart and Cohn).*

5. *Coma*, as the result of congestion and effusion into the cranial cavity, and pressure on the brain; and by the plugging, of the vessels of the brain, stopping the circulation in and causing anæmia of the cerebral mass.

6. *Coma*, as the result of the poisonous action produced on the brain by the circulation through it of urea, carbonate of ammonia ($CO_2 + NH_3$), and other products of disintegrated tissue present in excess in the blood.

7. *Syncope*, as the result of a deficiency of blood, due to—hæmorrhagic discharges (extravasations), coronary obstruction, and obstruction in the principal veins.

8. *Syncope*, as the result of mechanical pressure outside the heart, brought about by great pericardial effusion.

9. *Syncope*, as the result of the formation of *ante-mortem* cardiac clot.

10. *Asthenia*, as the result of loss of cardiac stimulus (a state of apparent cardiac paralysis) brought about by the poisonous action of the altered blood circulating in the coronary vessels and telling upon the nerves in connection with the cardiac viscus, and inability on the part of that organ to contract upon itself and propel the blood onwards for the nourishment of the system.

In proportion as these phenomena are pronounced, so will the chances of recovery be diminished, and *vice versâ*. On the severity or otherwise of the operating causes of death, therefore, must we learn to base the rules of our prognosis and the modes of treatment to be recommended.

Principles of Treatment.

Professor Williams, of the Edinburgh Veterinary College, has formed, we think, a most correct estimate of the character and treatment of the fever known as "Influenza" in the horse; for he has justly said of that fever what we must say of this, that although it is good practice to treat the cause, we cannot as a

* "Theory of the Pyrexial State," *Lancet*.

rule succeed, do what we may, in cutting short the obstinate course it is destined to run. This in itself points clearly to the fever being dependent on a specific cause, though that cause be not yet universally demonstrable; for the clinical thermometer has shown how the pyrexia rises to a certain point, then gradually recedes point by point, leaving the patient convalescent.

A comparison between the modes of treatment of the old and new schools of practitioners lays bare the important fact that they are exceedingly diverse. Without desiring to offend either side, I think I may safely say that the men of one extreme view on the one side have as much right to laugh at the "irreconcilables" on the other as these latter have to guffaw at them. I am glad, however, to feel that there is no bitter open hostility expressed on either side.

I will now briefly detail the general indications of the treatment I should recommend for adoption, the space at my disposal not permitting me to do more.

The entire and crucial difference consists in the fact, that what one side considers mere accessories the other look upon as vital, cardinal principles; and *vice versâ*. And so long as this state of things endures there seems no way out of the difficulty The practitioner of the old school, unless some of the everlasting nitre in the water be given, or the legs and ears hand-rubbed, or a little nitric æther administered, considers the treatment to be all too insufficient. That of the new school, on the contrary, adopting a broader gauge, takes a larger and wider view of the case from an all-around stand-point. Bearing in mind the excellent teaching of Professor Williams that the course of the fever cannot be cut short, it becomes our duty to first of all see what is going on, and next to aid the constitution in its struggle with the enemy. In proportion as the fever rises higher so does tissue-waste increase through disintegration, and it is our duty, where nature left by herself must eventually succumb, to step in and repair this loss. This is the only need of the physician. Under this excessive tissue disintegration the system is fast losing its powers of resistance, and the cause of the disease is increasing in activity. Alcohol possesses the

reputed property of allaying high pyrexia and preventing the genesis of defective, perverted tissue (Beale),* and is calculated above all things to suit the purpose we have in view.† Yet another object we must look to in the consideration of the treatment of this fever is the opportune expulsion of the waste-tissue when formed, and to this end it will become necessary to excite all glandular cells to an increased excretory action; and this will be best effected by the administration of stimulants, such as alcohol, æther, and ammonia, in any of their forms. Another important consideration we must bear in mind is that we must give the greatest aid to that part of the system on which the disease has produced its maximum effect; that is, we must allay those symptoms which assume the most violent and intense characters. Thus, should we find the action of the heart to be fast flagging, and that the pulse gets feebler, we give tone to the exhausted muscular wall of the heart, or, in other words, restore its *vis nervosa*, by exciting an artificial stimulus in it through the administration of digitalis ‡ and alcohol. Should we find the breathing to be difficult, we rouse the pulmonic centre to action by increasing our dose of ammonia.§ If laryngeal symptoms be prominent, the administration of tinct. aconite,‖ combined with stimulants, will afford great relief. Should Bronchitis supervene, belladonna¶ may be advantageously substituted. If the bowels are torpid we resort to strychnine, and in some cases tinct. arnica in small doses, which have the marvellous power of promoting peristalsis. If the liver be inactive we combine a little calomel or other purgative with the remaining medicine, and apply mustard poultices or turpentine fomentations over the region of the liver externally, and so on.

* "Alcohol in the Treatment of Fever."—Dr. Lionel S. Beale.

† The sulphate of quinine bids fair to take the place of alcohol in the reduction of high temperature, but Army veterinary practitioners are scantily supplied with this invaluable agent.

‡ "Properly regulated doses of digitalis stimulate both the sympathetic and the vagus, the latter more powerfully. They thus increase the *contractile* force of the cardiac ventricles."—Finlay Dun, p. 290.

§ Dr. Fothergill's "Experiments with Ammonia; its *Specific* Action on the Centre of Respiration" ("Action of Drugs").

‖ Dr. J. Cunningham's "Experiments upon Rabbits, producing Forcible Spasm of the Larynx in Poisonous Doses," 1878.

¶ "Bellaḍonna in Suffocative Catarrh," by Dr. March, *Medical Times and Gazette*, 1881.

In the convalescent stage our primary object is to improve the condition of the blood. We have seen how during the state of high pyrexia it has suffered in its constitution, and it is now necessary to restore it to its normal condition. Iron and potash salts, entering, as they do, largely into the composition of the red corpuscles of the blood, are here indispensable. We have also observed that the nervous tissue has suffered similarly, and we have to restore its constitution. And phosphorus, representing, as it does, one of the principal constituents of nerve-matter, would here be admirably adapted to our purpose. Oatmeal was lately analysed in the chemical laboratory at Edinburgh University, and was found to contain the largest quantity of phosphorus of any fodder, and it therefore recommends itself (in the shape of gruel) very strongly to our attention, and should be liberally brought into use at all stages of this fever. Isolation, long detention of convalescent animals, and the disinfection of infected stalls constitute the principal features of our preventive treatment.

ABNORMAL LACTATION IN A MARE.

BY .J DONALD, M.R.C.V.S., LIVERPOOL.

THE following, judging from our literature, being a very rare case, may interest some of your readers. As the notes I possess are incomplete, I shall content myself by giving a general description without attempting to enter into detail.

Subject.—A brown carriage mare in ordinary working condition, presenting all the signs of perfect health.

History.—Had a foal in the spring of 1879, which was weaned at the usual period, but the lacteal secretion continued up to the time I saw her—Christmas, 1880, and for how long after I am not in a position to say.

The owner informed me that some days the secretion was more profuse than others, but never any approach to cessation. She allowed it to flow at intervals of a few hours when in the stable, and when driven perhaps not more than two or three times a day, when brought to a stand-still. The mammary gland was perfectly normal and healthy.

Whether she had been "served" since the foal of 1879, I cannot positively say, but think not.

I may mention that the case occurred in the practice of James R. Carter, of Farnham, Surrey.

Treatment.—Mr. Carter's treatment consisted in the internal administration of Ferri sulph. et aluminis, daily, with the local application of acetum to the udder, which treatment was continued for some time, but without good effect. I suggested the internal administration of belladonna twice daily, and a few doses of iodine for the first few days, along with restricted diet and water, and the application of belladonna to the gland.

Whether or not this had any effect in diminishing or arresting the secretion, I am not informed.

It would be interesting to know if any other practitioner has met with a similar case.

VARIOLA EQUINA.

BY W. S. ADAMS, M.R.C.V.S., ARMY VETERINARY DEPARTMENT, OOSSOOR, INDIA.

As this disease amongst horses is rare, or the records of it are few, I trust the following account of an outbreak which has recently occurred amongst the horses at this depôt may be of interest to the readers of the VETERINARY JOURNAL.

The first cases were observed on the 25th of January, and from that time a percentage of thirty-four horses was attacked, the last admission being on the 12th of February.

The constitutional disturbance was, as a rule, very slight; the symptoms shown being dulness, staring coat, and undue salivation. A slight rise in the temperature could be detected in some cases. Few refused feed, but several had great difficulty in masticating their forage, owing to the soreness of their mouths. The earlier cases were nearly all coincident with Catarrh and cough, more or less severe, with swelling of the submaxillary and parotid glands. In the later cases there was no Catarrh, but nearly all had cough and tenderness of the glands. Pustules were most marked on the nostrils and lips and in the mouth. They were generally most conspicuous on the mucous membrane

of the upper lip, on the inside of the angle of the mouth, also under the tongue. In many cases the variolous eruption was observable on the body and extremities, being most marked under the knees and in the heels; in one case there was a somewhat profuse eruption on the eyelids of the right eye.

In cases in which the pustules were discrete the different stages of the disease were easily watched, but in those cases in which the eruption was extensive the pustules soon became confluent. In these cases, after the vesicular stage, a nauseating sour smell was emitted.

In several cases there was a decided relapse on about the fifteenth day; and again the mucous membrane of the mouth became inflamed, and a secondary eruption took place. This subsided on about the fourth day without the formation of pustules.

I found that beyond attending to the general health of the animal, and treating any casual symptoms, no special treatment was required. I put all the patients on soft food, and gave an extra quantity of green food mixed with the daily ration of grass. The mouths were frequently cleansed with a solution of nitrate of potash or an acidulated lotion of dilute sulphuric acid. After the vesicles had burst, and there was ulceration or undue excoriation, I applied the tincture of muriate of iron with benefit. In cases in which there was fever present I gave a saline febrifuge drench. I avoided ordering balls to be given, as I feared inoculation of the attendants. After the disease had run its course, some horses had considerably fallen off in condition, but soon picked up again. Others, although they had perhaps not fallen off much in condition, appeared ænemic. To these I gave ferruginous tonics.

It is difficult to attribute the outbreak to any specific cause. The first two cases that occurred were horses of a lot recently received from Madras, imported from Australia. These were received on the 6th of January, and the disease was not observed till the 25th idem. Subsequently all horses were alike affected. I think, therefore, the fact of the first cases having occurred amongst these horses must have simply been a coincidence.

Hearing of disease amongst cattle in the neighbourhood, I visited a village and inspected some sick animals, but with

negative results. I also took the opportunity of examining some flocks of sheep in the neighbourhood, but could detect no trace of variolous disease. Had I observed a trace of the disease amongst the cattle or sheep, I think there could be no surer source of infection, as the grass-cutters gathered their daily supply of grass from fields on which, at this season of the year, cattle and sheep are habitually grazed. This suggestion as to the possibility of horses in this country being infected with contagious diseases by means of grass-cutters' grass is worthy of investigation, and not only with regard to Variola, but also Anthrax, which is very prevalent amongst cattle in this country, and annually causes great loss amongst the Government horses. However, having failed to trace any direct source of contagion, and the outbreak having been coincident with Catarrh and cough, I am disposed to consider it a spontaneous outbreak, due to the cold north-east winds prevalent at about the middle of January.

In order to watch the course of the disease, I procured a donkey, and inoculated it with lymph from a well-marked case in which pustules were well formed, and at the most perfect vesicular stage. On the eighth day after inoculation the distinctive eruption of the disease was observed in the mouth. The donkey took the disease very virulently, the pustles becoming confluent, and ulcerating on the sides of and beneath the tongue, and I could see a large crop of pustules on the tonsils, which had become confluent.

The description of Horse-pox in Fleming's "Sanitary Science" very accurately describes the disease as it occurred at the recent outbreak.

Editorial.

THE ARMY VETERINARY DEPARTMENT.

FROM the observations and correspondence which have recently appeared in this Journal and the army publications, it is obvious that serious discontent prevails in the Veterinary Department of the Army, and that this discontent bodes no good for its continued efficiency. The principal cause for the dissatisfaction displayed seems to arise from the most unfair—nay, cruel—treatment the veterinary officers receive in India.

For reasons which it is impossible to guess at, the military authorities in India seem, from all accounts, to be bent on inflicting every kind of indignity on veterinary surgeons, with the result of disgusting them for service in that country. Strive as they may to deserve recognition and approbation, the services of veterinary officers are generally totally ignored, while those of the most insignificant and fifth-rate departments are acknowledged to the fullest extent. The late campaign in Afghanistan has been the crowning indignity, and has proved to be pretty well the last straw. The mismanagement with regard to animals led to losses which appear appalling, and to an amount of cruelty which makes one shudder; and this because the veterinary profession was ignored. Those veterinary surgeons who were at last called in to assist in rescuing the army from disaster were worked night and day, until at last some died, others were invalided, and the remainder were all but overwhelmed with the effects of climate, hardship, and fatigue. Yet at the end of the campaign, when every other department was mentioned in general orders, and individuals in scores received notice and thanks, the officers of the Veterinary Department were mortified to find that they did not exist at all, so far as official recognition is concerned.

And now it appears a new scheme is on foot, which, if it is carried into operation, will place members of the profession in a worse position than ever. Already overworked as no other department would or could be, it is proposed to diminish the numbers to such an extent as to leave in India—a country perhaps larger than Europe, and essentially agricultural—with about as many veterinary surgeons as suffice for Warwickshire. Be it remembered, too, that in India there are animal plagues of the most formidable description which, it is calculated, cause a loss that is computed at six millions of pounds annually. Army veterinary surgeons are taken from their own duties to suppress these plagues, and at the most deadly season are compelled to travel long distances, and toil incessantly, though, for lack of assistance, almost fruitlessly, and generally at great peril and expense.

From what has appeared in the various journals, it would seem that, as at present circumstanced, the Army Veterinary Department is decidedly most unpopular, and if all stories are true this cannot be wondered at. On many sides surprise is expressed that any candidates venture to present themselves for commissions, when such a fate is before them as has befallen so many of their colleagues. It is pointed out that the medical department of the army was at one time as unjustly and cruelly treated, until at last none could be found to join it. Then the grievances were remedied, justice was done, and now the doctors, who were formerly in much the same, if not a less favourable position than the veterinary surgeons, have left these entirely behind, and are fairly compensated and recognized. This result has been obtained, it is asserted, through the medical profession stopping the supply. Certainly, if any man joins a department which has to submit to all that the Army Veterinary Department is reported to be subjected to, with his eyes open, he does not deserve any commiseration or sympathy when he complains, or returns (if he chance to do) from active service in India,

a hopeless wreck, unthanked and unrewarded, no matter how meritorious his services may be.

In this, as in many other things, the profession has its destiny in its own hands. The remedy is not far to seek, and if it will not adopt it, then it deserves to suffer.

REMARKS ON ANTHRACIC VACCINATION AS A PROPHYLACTIC OF SPLENIC FEVER.*

BY L. PASTEUR, MEMBRE DE L'INSTITUT.

THE Editor of the *British Medical Journal* has asked me for an expression of opinion on the experiments of vaccination as a prophylatic of Splenic Fever, performed in Hungary at the request of Baron Kemeny, Minister of Agriculture for that country. These experiments were made by a gentleman belonging to my laboratory, M. Thuillier, whose reports, made to me on his return from Pesth and Kapuvar, are appended. I must here observe that, unfortunately, M. Thuillier only had at his disposal animals of which a certain number were affected with various diseases, and likely to die during the course of the vaccination from the effects of these diseases, without reference to Splenic Fever. However that may be, I am the first to recognise that these experiments have not been so completely successful as those which were performed in France, and which are now reckoned by dozens. I speak, let it be understood, of the experimental verification of the efficacy of the vaccination by means of final inoculation with highly virulent material. After the return of M. Thuillier to France, I feared that the small difference in the results to which I refer must be attributed to the difference between the race of animals in France and Hungary. Fortunately, my fellow-worker and myself soon discovered that it was not so. Numerous trials made in January and November last clearly showed that the first vaccine employed by M. Thuillier, and which I had myself given to him at the moment of his departure, was, unknown to me, rather weak in reference to a second vaccine intended to complete the vaccination commenced by the first. This explains how it is that the second vaccine caused the death of some sheep after the second vaccination. It cannot, however, in any way compromise the success of the new method of vaccination.

At the International Medical Congress held last August in London, I stated that 20,000 sheep had already been vaccinated. The figures at the present moment are, 130,500 sheep, 19,000 oxen, cows, and horses; in all, 150,000 head. In proportion as we approach the months in which deaths from Splenic Fever are most considerable, vaccinations increase to an extraordinary extent. I am convinced that, from the month of April to the month of September next, the new method of inoculation will have been brought to bear on more than a million of animals, without reckoning what is done out of France.

I have noted the article of one of the *privat-docents* of the Faculty of Pesth, who made part of the commission on M. Thuillier's experiments. This gentleman has, it appears, many preconceived notions on the subject of microphytic diseases. He has thrown himself into all kinds of speculative considerations on imaginary dangers on the subject of the new method of vaccination. I deplore—without, however, feeling any surprise—the foregone conclusions of the *privat-docent*. All scientific novelties are subject to incon-

* M. Pasteur, for reasons explained in his address at the International Medical Congress, employs the term "vaccination" for anthracic inoculation.

siderate criticism. In the present case, this only troubles me with regard to the injury it may inflict on agriculture and on stock-raising in Hungary. It would be disastrous if it were to have the result of retarding the application of vaccination for the prophylaxis of Splenic Fever in a country where such a remedy is so much required.

Report on Anthracic Vaccination at Buda-Pesth. By M. L. Thuillier.

Experiments have been made in the establishment of the Veterinary Institute at Buda-Pesth, under the auspices of Baron de Kemeny, the Hungarian Minister of Agriculture and Industry, and under the superintendence of a commission nominated by his Excellency, and composed of nine members: Dr. Tormay, President, Director of the Veterinary Institute; Dr. Azary, Secretary, Professor of the Institute; Dr. Thanhoffer, Dr. Czako, Dr. Liebermann, Professors of the Institute; Dr. Fodor, Professor of Hygiene to the Faculty of Medicine; Dr. Koranyi, Professor of Therapeutics; Dr. Plosz, Professor of Chemistry; and Dr. Rozsahegyi, Privat-Docent of the Faculty.

Sixty sheep, and ten animals belonging to the bovine genus, were set apart for these experiments. They were divided in the following manner: thirty Hungarian sheep, thirty Merino sheep, three Hungarian oxen, three Hungarian cows, three Hungarian calves, one young buffalo. These animals were bought at the city market two and three days before the first inoculation. Some of the sheep were more or less weakly animals. They were divided in the following manner: fifteen Hungarian sheep and fifteen Merino sheep intended to be inoculated; thirteen of each species by recent cultivated material, containing only filaments and no spores; two of each species by less recent cultures brought from Paris, and only containing spores; two cows, one ox, and two calves intended to be vaccinated by recent cultures; fifteen Hungarian and fifteen Merino sheep, two oxen, one cow, one Hungarian calf, and the young buffalo were reserved as test-animals (*temoins*). The whole of the sheep were placed together in a building destined for glandered horses; the cattle were lodged in stables at the Institute.

The first vaccinal inoculation was performed at midday on September 23rd, 1881. The four sheep were inoculated by spores of a culture dating from August 10th, 1881. All the inoculated animals tolerated the vaccinal fever which followed this inoculation very well. On the morning of October 2nd—that is to say, nine days after the inoculation—one of the thirteen sheep inoculated by recent cultures was found dead. The superintending commission made a necropsy, and declared the sheep to have died of Catarrhal Pneumonia. The second inoculation was performed on October 15th, at midday. The four sheep inoculated on September 23rd by spores were again inoculated on that day by a culture of the second vaccine, dating from June 25th, 1881, likewise containing spores only. The inoculated animals bore very well the vaccinal fever which resulted from this second dose of virus. On this occasion, also, one of the Merino sheep inoculated by recent culture died. It was found dead on the morning of the 8th. In this case, likewise, necropsy showed that death was not a consequence of the inoculation. The superintending committee declared that the sheep had died of catarrh of the stomach. The inoculation of the non-diluted virus took place on October 17th. The superintending committee having expressed a desire to reserve some sheep for ulterior researches, only twenty-five sheep of each lot were inoculated. Each lot comprised thirteen Hungarian and twelve Merino sheep. All the larger animals were inoculated with the virulent material. The two inoculated Hungarian and the Merino sheep which were reserved had been vaccinated by recent cultures.

On the morning of the 19th, fourteen of the test (*temoins*) sheep were found dead; on the 20th, four more succumbed, and five others died on the succeeding days. Thus, out of twenty-five test sheep (*temoins*), twenty-three died. The clinical symptoms, the cadaveric lesions, the presence of bacteria in the blood, showed the cause of death in all the victims to be Anthrax. However, one cachectic sheep which died with symptoms of Splenic Fever, did not show, at the necropsy made by the commission, any of the naked-eye or microscopic characteristics of that disease. On the morning of the 26th, one of the Hungarian sheep vaccinated by recent culture was found dead. The commission made a necropsy, and declared the cause of death to be Cachexia induced by *Distoma hepaticum*. Amongst the cattle, no fever nor any morbid appearance whatever supervened amongst those which were vaccinated. In the test series, the temperature rose two or three degrees. There was a little depression, but no want of appetite.

These experiments have fully verified the harmlessness and the efficacy of vaccination. The experiment made on the series of sheep vaccinated by culture of old date brought from Paris in closed tubes, showed that the virus may be transported under these conditions for any distance without losing its valuable qualities.

Report on Inoculation at Kapuvar.

The Buda-Pesth experiment was repeated at Kapuvar on one hundred sheep and twenty oxen. Fifty sheep and fourteen oxen were vaccinated; fifty sheep and six oxen were reserved as test animals (*temoins*) of the virulent inoculation, fifty-nine sheep and one test cow (*temoins*) died. The surviving sheep and three out of the five surviving cows were very seriously ill. One vaccinated sheep died, the other sheep and oxen inoculated were not affected. Twenty-six sheep out of a flock ravaged by anthrax were also inoculated. Between the first and second vaccinal inoculation, two of these sheep died, one of the remainder of the flock died. After the second inoculation, ten of the inoculated sheep died; nine have since died. It is not known whether there have been any subsequent deaths from anthrax in the remainder of the non-vaccinated flock.

THE ASSOCIATION FOR THE ADVANCEMENT OF MEDICINE BY RESEARCH.

A MEETING with the above object, called by the Presidents of the Colleges of Physicians and Surgeons of London was held, March 28th, in the Library of the College of Physicians. Letters of apology and sympathy were read or notified from the Archbishop of York, Earl Derby, Earl Pembroke, Mr. Justice Grove, Sir Farrer Herschel, Lord A. Russell, Sir T. Acland, Sir Erasmus Wilson, Sir Thomas Watson, Mr. Goschen, M.P., Mr. Darwin, Professors Huxley, Humphrey, Odling, Cleland, Gairdner, Fraser, Lister, and the President of the British Association for the Advancement of Science. Sir William Jenner, Bart., occupied the chair, and among those present were Sir James Paget, Sir W. Gull, Sir J. Hooker, Sir Risdon Bennett, Sir G. Jessel, Sir Trevor Lawrence, Sir W. MacCormac, Professors Sanderson, Paget, Erichsen, Tyndall, Gamgee, Gerald Yeo, J. Marshall, Drs. W. B. Carpenter, C.B., G. Buchanan, Bristowe, Farquharson, M.P., G. Johnson, Hughlings Jackson, Cameron, M.P., Cholmeley, Wilks, Acland, Matthews Duncan, Andrew Clark, Pye Smith, Sieveking, Galton, Braxton Hicks, Owen Rees, and Messrs. Savory, Spottiswoode, Holthouse, Wheelhouse, Mason,

Busk, Prescott Hewett, Spencer Wells, Bowman, De la Rue, Romanes, Scott Orr, M.P., A. J. Balfour, M.P., N. S. Maskelyne, M.P., Professor Robertson, and George Fleming.

Sir WILLIAM JENNER proposed the following resolution: "That with the view of bringing the legitimate influence of the medical profession more effectively to bear on the promotion of those exact researches in physiology, pathology, and therapeutics which are essential to sound progress in the healing art, an Association be formed, to be called 'The Association for the Advancement of Medicine by Research.'" He stated that several meetings of members of the medical profession and others interested in the advancement of medical knowledge had been held to deliberate on the best means of inaugurating an association for the advancement of medicine by research, and it had been determined to call together a representative meeting of men interested in medicine and the sciences on which it rested and with which it was allied, to express or not their approval of the scheme to be submitted to them. Although there were already a number of Societies to which those who had made scientific researches might communicate their results, there was at present none to guide research, and this want he hoped this Association would supply. It was not intended that the Association should limit itself to any one object, but being founded on a very broad basis, should carry on its work in all departments. He hoped it would exert its influence on the study of therapeutics, and investigate the effects of sewer gas and foul air upon the human constitution, and in such studies they would want the combined work of physiologists, pathologists, and chemists. Another subject that lay ready to hand was the influence of light, moisture, subsoil, infection, and injury upon tubercular disease. If such investigations were carried out by the right men in the right spirit he was confident the benefits to humanity would be incalculable. Every advance in physiology was a stepping-stone to an advance in pathology, for the latter was founded on the former; and he trusted the proposed Association would aid and stimulate professed physiologists. For the attainment of these objects there was no desire to infringe or evade the law of the land, or even to ask for a repeal or modification of any part of it. But it would be the duty of the Association to watch most carefully the working of existing laws, and to see how far they attain their object, and how far existing machinery may unnecessarily hinder the work of physiologists. Sir William Jenner considered it most important that the Association should be guided by men for whom time had tempered zeal with discretion, and who would be able to restrain the ardour of younger men. Such men would be able and would endeavour both to enlighten the public and lessen their morbid sensibilities.

Mr. SPENCER WELLS seconded the resolution, and assured the meeting of the warm sympathy of the Council of the College of Surgeons with the movement.

Sir GEORGE JESSEL supported the resolution, and wished all success to the Association. He considered it most desirable that the public should be informed that the future progress of medicine rested upon science. Although medicine had at times made great strides by some fortunate or accidental experiment, yet the real substantial advance depended on true scientific research, and on the habit of mind it fosters. The public also needed to be taught the necessity for experiments on living animals, the advantages obtained by them, the amount of pain inflicted, the number of times the experiments required to be repeated, and if the experiments produced any effect upon the moral nature of the investigator.

The resolution was put and carried unanimously.

Mr. SPOTTISWOODE (President of the Royal Society) moved: "That the Association consist of representative members of the medical profession,

and of other persons desirous of promoting the above objects." He remarked that many people, unacquainted with medical art and science, considered themselves fully competent to say what shall, and what shall not, be done in its study. Medicine is so dependent upon all other sciences that he was glad to see that leading men in sciences other than biological were to be asked to join this Association. The question at issue was a very grave one, no less than this: should medicine be relegated to mere observation, or should it be experimental?

The resolution was seconded by Dr. QUAIN, who referred to the valuable results of Dr. Burdon Sanderson's experiments on the infection of cattle plague.

The resolution was carried unanimously.

Sir JAMES PAGET, Bart., moved: "That the Presidents, for the time being, of the Royal College of Physicians of London and of the Royal College of Surgeons of England be the permanent *ex-officio* Presidents of the Association; and that each of them be requested to nominate annually twelve persons, of whom six at least must be Fellows of their respective Colleges, to be representative members of the Council of the Association for the year, in addition to the following, who shall be *ex-officio* members—viz., the Presidents, for the time being, of the Royal Society, of the General Council of Medical Education and Registration, of the Royal Colleges of Physicians and Surgeons in Edinburgh and Dublin, of the Faculty of Physicians and Surgeons in Glasgow, and of the Royal College of Veterinary Surgeons, the Director of the Royal Gardens, Kew, the Medical Officer of the Local Government Board, the Regius Professor of Medicine and the Linacre Professor of Anatomy and Physiology in the University of Oxford, the Regius Professor of Physic and the Professor of Anatomy and Physiology in the University of Cambridge, the Professor of Institutes of Medicine in the University of Dublin, the Deans of the Medical Faculties of the Universities of Edinburgh, Glasgow, and Aberdeen, the Brown Professor of Pathology in the University of London, the Presidents of the British Medical Association, of the Council and of the Parliamentary Bills Committee of the British Medical Association, and of the following Societies—Royal Medico-Chirurgical, Pathological, Clinical, Epidemiological, Obstetrical, Medical, Hunterian, Harveian, Zoological, and the Society of Medical Officers of Health. That the Council be authorised to invite the co-operation of additional representative men, within the United Kingdom, as corresponding members of their body. That registered medical men desirous of promoting the above objects shall, with the consent of the Council, be admitted as members of the Association on the nomination of an ordinary or corresponding member of Council. That members of the Council, on their retirement, become ordinary members of the Association. That the President for the time being of the Royal College of Physicians of London and the President for the time being of the Royal College of Surgeons of England shall be alternately, for the term of one year, *ex-officio*, Chairman of the Council, and shall nominate a member of Council as Vice-Chairman for the year, such nominated Vice-Chairman to be re-eligible. The ordinary quorum of the Council shall be six. That the Council shall have the entire control of the business of the Association, and the entire management of any funds contributed for its general objects, or for any special purpose; and shall annually appoint a Treasurer and Secretary, who shall be re-eligible." Sir James pointed out that it was purposed that all the members of Council were to be representative men, that not one was named, but all held office by virtue of their representing the views of large bodies of medical and scientific men. While he could not too much admire the zeal of individuals who, working alone, and unhelped by Government, public support, or any association, had done

great and beneficent work, yet there were occasions when single persons were of small weight, and when an association could exert powerful influence on the public and the Government. Medicine once was one of the smaller branches of science pursued by the Royal Society, and medicine was in danger of further separation from the other sciences. He thought the Council would do great good if they would act as a council of reference, and prevent the performance of experiments which were unnecessary or hopeless. He suggested that great good would have been achieved if a skilled pathologist had accompanied the *Challenger* in her recent trip and had studied the diseases of all the places visited.

The resolution was seconded by Sir WILLIAM GULL, Bart., who considered the step they were then taking a very important one. It was an announcement that they meant to pursue their science only on the best information possible, and that they did not *know* everything; the spirit of truth and of science was to guide them for the future in their work, and there was to be no pretension of knowledge or authority.

The resolutions were supported by Mr. WARREN DE LA RUE, F.R.S.

The series of resolutions was carried.

Sir RISDON BENNETT moved: "That it shall be the principal duty of the Council to encourage original research, and to further the extension of scientific knowledge in the fields of inquiry specified in Rule 1. That, with this object, the Council shall take note of, and seek to remove, any hindrances which may appear to them to be operating adversely to the progress of medical knowledge. That the working of the Act 39 and 40 Vict., cap. 77, shall engage the watchful attention of the Council, and may rightly become the ground of interposition on their part. That no public action shall be taken unless agreed to at a meeting of the Council duly convened for that purpose, at which twelve members at the least shall be present, and at which the chairman and three-fourths of those present shall concur. That no annual subscriptions be required; but that members of the Association be invited to give such aid as they may desire to the general purposes of the Association, or towards special expenses incurred." It was very important that the Council should be composed of those best fitted to counsel scientific investigators, and for the most part of those who were conversant with scientific experiments, and who, by their social standing, were able to influence the public and remove the hindrances in the path of the investigators. For the present the chief public work of the Association would be the publication of information to meet the objections now raised against their experimental work.

Mr. ERICHSEN, in seconding the resolution, expressed his satisfaction that the Association did not contemplate to interfere directly with the Act, which was the outcome of the report of the Royal Commission, of which he was a member.

Sir J. LUBBOCK entirely concurred in the objects of the Association, for he fully believed it would be beneficial in diminishing the sufferings of man and the lower animals. It was impossible to have any increase in our medical knowledge without practical benefit to the race.

The resolution was carried.

Professor TYNDALL, in proposing "that the present rules, defining the objects and constitution of the Association, shall not be altered except by the written consent of three-fourths of the entire Council, after consideration at a meeting called for the specified object, on a fortnight's notice, and with the further written sanction of the two presidents," expressed his conviction that if the common sense of Englishmen was appealed to, it would curb the fanaticism of a few now so rampant. Never before had there been the same hope of giving medicine a scientific basis, and the only way of attaining that end was by promoting and protecting the experimental method.

Dr. ANDREW CLARK and Sir JOSEPH HOOKER spoke to the resolution, which was carried.

On the motion of Dr. ACLAND, seconded by Dr. W. B. CARPENTER, a cordial vote of thanks was accorded to Sir William Jenner for calling the meeting and for presiding over it. This was briefly acknowledged, and the meeting broke up.

HUMAN AND BOVINE TUBERCULOSIS.

IN the *Italia Medica*, the paper read by Dr. Bizzozzero on the above subject at the International Medical Congress, held at Turin, is published, and in it are the following conclusions:—Human and bovine Tuberculosis have between them the closest anatomical affinity. When the matters of both are inoculated in susceptible animals, they equally give rise to the development of tubercular neoformations—a result which is not produced by inoculation with other substances. It must, therefore, be admitted that their virus is identical, and this shows the necessity for resorting to severe prophylactic measures, in order to prevent the transmission of the disease from animals to man.

Proceedings of Veterinary Medical Societies, &c.

ROYAL COLLEGE OF VETERINARY SURGEONS.

QUARTERLY AND SPECIAL MEETINGS OF THE COUNCIL, HELD APRIL 4TH, 1882.

The President, GEORGE FLEMING, Esq., in the Chair.

Present:—Sir F. Fitzwygram, Messrs. Collins, Greaves, Anderton, Morgan, Cartwright, Simpson, Dray, Gowing, Whittle, Woods, Reynolds, Taylor, Blakeway, Coates, Cox, Batt, Axe, Wragg, Harpley, Brown, and the Secretary.

The SECRETARY read the notice convening the meeting.

On the motion of Mr. DRAY, seconded by Mr. WHITTLE, the minutes of last meeting were received and taken as read.

The PRESIDENT informed the Council that he had taken upon himself to write, in the name of the Council, to the Home Secretary conveying their congratulations to Her Majesty on her escape from the recent atrocious attempt on her life. He was sure that he would receive the support of the Council in having taken that action. The Royal College, in union with all the other large corporations in the three kingdoms, stood prominent in loyalty to the throne, and he thought it his duty as President of the College for the time being to take the step he had done. Her Majesty through Her Secretary of State had been pleased to acknowledge the receipt of the communication.

The following is a copy of the letter received from Sir W. V. Harcourt:—

WHITEHALL, 28*th March*, 1882.

Sir,—I have had the honour to lay before the Queen the loyal and dutiful address of the President and Council of the Royal College of Veterinary Surgeons on the subject of the recent attempt upon the life of Her Majesty.

And I have it in command to assure you that Her Majesty is deeply sensible of the loyalty and affection of her faithful subjects.

A. W. Hill, Esq., Royal College of Veterinary Surgeons, 10, Red Lion Square, W.C.

I am, Sir, your obedient Servant,
W. V. HARCOURT.

Correspondence.

The SECRETARY announced that a letter had been received from Colonel Kingscote, thanking the Council for their letter in which they expressed their thanks to him for his instrumentality in passing the Veterinary Surgeons Act.

A letter was received from the Lord President of the Privy Council, stating that his lordship up to that date, in consequence of the uncertainty of his plans, and of his having to be at Mentone as minister in attendance on Her Majesty, had been unable to reply to the President of the Council on the matter of receiving a deputation from the Royal College, but that any day towards the end of April would be most convenient, Wednesday being the most suitable. A subsequent letter was received, in which it was stated that the Lord President would be happy to receive the deputation on Wednesday, April 26th, at 3 30 p.m.

The PRESIDENT, after explaining the circumstances which had led to the delay in receiving the deputation, said he was quite certain he could secure the attendance of many of the noblemen, Members of Parliament, and other gentlemen who had previously promised to be present. He thought the deputation would be a very influential one, and he was sure that his lordship from the views he expressed to him at their last interview, would gladly receive the deputation, and hear what they had to say in regard to the acquiring of a new building for the Royal College. The deputation would be represented, not only by the scientific, but also by the agricultural and sporting elements.

Mr. DRAY said he thought their thanks were due to the President for the action he had taken relative to the dastardly attempt on the life of Her Most Gracious Majesty, for a better Queen had never sat upon a throne.

A letter was read from a rejected student at the pass examination in March last. He was referred back to his studies for nine months, and he wrote to inquire whether the Council would reconsider his case, and allow him to go back for three months as usual.

The PRESIDENT said that the case of the applicant had been fully considered by the Examining Board, and it was thought that nine months was not too long a period, because he was found to be so insufficient. As acting Chairman for the time being of the Examining Board, he felt it his duty to recommend that the decision of the Examining Board be adhered to.

Mr. P. TAYLOR seconded the President's proposition, which was confirmed.

The SECRETARY stated that a letter had been received from a gentleman in America, to the effect that his diploma had been lost through a fire, and applying for another.

The Secretary was instructed to write in the usual way for formal proof that the diploma had been lost.

The SECRETARY announced that a letter had been received from the Attorney-General of the Cape of Good Hope with regard to the case of a member who had been convicted of fraud. At a quarterly meeting of the Council, held about the same time last year, he had been instructed to write to the Attorney-General at the Cape, and there had now been received sufficient proof of the conviction, the letter stating that the points reserved in the case had never been brought before the Court of Appeal.

The PRESIDENT pointed out that by the charter a committee should be appointed to consider the whole of the facts of the case, and on the decision of that committee would depend the further action of the Council. It was, no doubt, a painful case, but the Council had a duty to perform. As it was now so near the end of the business year, he proposed that either a special

meeting of the Council should be held to consider the case, or that the appointment of the committee be deferred until after the annual meeting.

Mr. WHITTLE thought that having got such a weight of evidence, the sooner the matter was settled the better, and suggested the immediate appointment of a committee to consider it.

Mr. BLAKEWAY doubted whether it was necessary for a committee to investigate the matter.

After some conversation, Mr. TAYLOR moved, and Mr. WOODS seconded, that tne matter be postponed until after the annual meeting.

This proposal was agreed to.

The PRESIDENT said there was a very important point which entered into their correspondence with regard to their position as a scientific body. On March 17th he was written to by a medical gentleman of very high position in London, asking him to be present at a meeting of medical men, some of whom were presidents of the principal societies in London, to be held at the Royal College of Physicians, with a view of founding an "Association for the Promotion of Medical Science by Research." The letter was addressed to him privately, and enclosed in it was a draft of the proposed rules. The Association itself was a most important one, being meant to protect scientific men in their researches, and to further in every possible way the advancement of medical science by research. In No. 3 of the proposed rules it was stated that the presidents of the Royal College of Physicians and the Royal College of Surgeons, and those of every medical society in London, and every medical and scientific body in the three kingdoms, would be *ex officio* members; but when he looked over the list he found the President of the Royal College of Veterinary Surgeons omitted. He wrote at once in reply saying, that however much his sympathies might be with the establishment of such an Association, he could not be present, inasmuch as the Corporation he had the honour to represent was not mentioned, and that the veterinary profession ought to be acknowledged by the medical profession, and he looked on it as a slight upon the profession to which he belonged that it was not acknowledged in any way, and that therefore he declined to be present. After some days he received a reply, acknowledging that all he had advanced was very just, and adding that when his (Mr. Fleming's) presence was requested at the meeting it was not only for the personal help he could afford, but for the sake of his position as a representative of the Royal College of Veterinary Surgeons, and stating further that the omission had been quite accidental and not intentional, and that his (Mr. Fleming's) claim to be an *ex officio* member would be at once recognised. This was the first opportunity the Royal College had had to vindicate its right to be represented among the scientific bodies of this country; and he was sure that in the course he had adopted he would receive the approval of the Council. The Association would be a most powerful one being composed as it was among others, of the President of the Royal College of Physicians, the President of the Royal College of Surgeons, and the presidents of kindred societies in the United Kingdom. He endeavoured to point out as well as he could that the members of the veterinary profession should be recognised as searchers after truth as well as the other societies. The President of the Royal College of Veterinary Surgeons would therefore in future be an *ex officio* member of the Association for the Promotion of Medical Science by Research.

The SECRETARY read the report of the examinations in connection with the Royal Agricultural Society's prizes.

The SECRETARY read a letter from Mr. Jenkins (the Secretary) bearing upon the subject of the examinations, and expressing his regret that a sufficient number of candidates did not compete.

The PRESIDENT said that in the address which it was usual to give to those who had graduated and received the diploma of the Royal College of Veterinary Surgeons, he impressed upon the gentlemen present the necessity for competing for these prizes. It was really small encouragement to the Royal Agricultural Society to find so few competitors, and he tried to lay before them not only the value of these prizes, but also the value to the profession of those young men who went in and successfully competed for them. The Royal Agricultural Society offered the prizes with the best intention, namely, promoting the practical part of the profession, and it was rather a reflection on the profession itself that the competition had not been taken up more warmly. He had every reason to hope that next year they would have a larger acquisition to the list of competitors. The restrictions that had hitherto existed had been removed, so that the field was open to all those who had passed in the ordinary way.

On the motion of Mr. DRAY, seconded by Mr. TAYLOR, the report was received and adopted.

The Secretary was instructed to write a letter to the Secretary of the Royal Agricultural Society, thanking that body for the alteration in the qualifications for their examination, and that it was now open to all graduates.

Examination Report.

The report stated that at a meeting of the Court of Examiners, held in London on the 5th and 6th of January, 1882, for the Pass Examination, ten passed and seven were rejected. For the "Second Examination," held on the 7th and 9th January, eight passed and eight were rejected. In the First Examination, on the 10th and 11th January, thirteen passed and five were rejected.

The unsuccessful students in each case were referred back to their studies for three months.

The result of the several meetings of the Scotch Section of the Court of Examiners, held in Edinburgh and Glasgow, was as follows:—On the 13th and 14th January, for the First Examination, nineteen passed and eight were rejected. On the 27th, 28th, 29th March, of the students who were admitted members of the profession from the Royal Veterinary College, twenty-five passed and six were rejected; on the 31st March, for the Second Examination, twenty passed and four were rejected; for the First Examination six passed and two were rejected.

All the unsuccessful students in the several classes were referred back to their studies for three months save one, whom the Examiners decided should be put back for nine months.

Registration Committee.

The SECRETARY read the Report of the above Committee.

Mr. TAYLOR said he had been requested to ask whether existing practitioners had the power to add to their names the title of V.S.

The PRESIDENT thought they could. It could not legally be prohibited. Formerly there was no law against the adoption of it, but now there was. The Crown lawyers decided that the title or designation of Veterinary Surgeon could not appertain altogether to graduates of the Royal College; and that those who had been practising veterinary medicine and surgery, had as much right to the title as the members of the Royal College. The non-qualified men, however, had no claim to the title of M.R.C.V.S., or to that of F.R.C.V.S.; but there was no law up till last year to prevent them assuming the title of V.S.

Mr. TAYLOR said that it was a disputed point outside the Council. It

was contended by some that they could put "Farrier" over their door, and others said that this could not be done.

The PRESIDENT said that the law was very explicit on the subject. Clause 16 of the Act provided that a man must not call himself by any name, title, or anything else, which implied that he was a practitioner of veterinary medicine or surgery.

General FITZWYGRAM said he understood Mr. Taylor's question to be this:—A man being a horse-shoer put "Farrier" over his door—which he was legally entitled to do—but that he practised veterinary surgery, not because of his designation of farrier, but simply because he chose to do so.

The PRESIDENT said that such an one had no legal right to practise.

General FITZWYGRAM.—Nor recover his fees, but he could put up a notice that he can shoe horses.

The PRESIDENT.—There is no law to prevent any man doctoring a human being; but a man who doctors a human being must take the consequences, and he cannot sue in a Court of Justice for fees.

Professor AXE said his opinion was that as matters at present stood a man putting up the title of "Farrier" could practise.

The PRESIDENT said it was a matter of law, and a test case could easily be tried before one of the Courts in the event of any difficulty arising.

The Examination Committee.

The SECRETARY read the report of the above Committee in regard to Matriculation Examinations.

On the motion of Mr. DRAY, seconded by Mr. GOWING, the report was received.

Mr. COLLINS moved that the report be printed and circulated among the members of Council previous to the next quarterly meeting. His reason for proposing this was, he said, because none of the principals of the schools were then present, and they might wish to express their views on the subject.

Mr. TAYLOR seconded the motion, which was carried.

Finance Committee.

The Report stated that the vouchers and receipts for the preceding quarter had been examined and found correct. The Committee recommended that the present liabilities should be discharged, and cheques ordered to be drawn. This would leave a balance at the bankers of £328 17s. 4d.

On the motion of Mr. WHITTLE, seconded by Mr. TAYLOR, the Report was received.

It was explained that one of the items had been incurred for the payment of extra assistance to the Registrar, which was necessitated by an over-press of work consequent upon the great time and labour required with papers and communications in connection with registration business.

It was agreed that such assistance as is necessary be continued.

Some conversation ensued as to the manner in which the Registration Fund should be dealt with.

The PRESIDENT suggested that the names of those who applied for registration should be published, so that, if desirable, any one should have an opportunity of objecting to any particular name.

Mr. TAYLOR thought the Privy Council ought first of all to be consulted in the matter, because he was of opinion that the Council had no right to publish the names.

Mr. MORGAN thought that the President's proposal was a very good one and calculated to be of benefit to the profession at large.

After some conversation, it was agreed that a special committee should be appointed after the annual meeting, to make investigations as to the applicants.

On the motion of Mr. TAYLOR, seconded by Mr. CARTWRIGHT, the report was adopted.

The Fellowship Examinations were postponed until after the next meeting.

The obituary notice was read.

On the motion of Mr. DRAY, seconded by Mr. TAYLOR, the Secretary was instructed to send a leter of condolence to the widow of the late Mr. Secker, of Knaresborough.

The Annual Meeting.

Several suggestions were made by the members of Council to hold the annual meeting in some more convenient place than the board-room of the College, which was considered both inconvenient and unsafe for the members that attended. It was ultimately agreed that the meeting be held at the Inns of Court Hotel, and that the annual dinner be held at the same place.

(The Dinner Committee were unable to obtain suitable rooms at the Inns of Court, but have made arrangements for both dinner and meeting to be held at the Albion Hotel, Aldersgate Street.)

Messrs. Batt, Cox, Wragg, and Collins were appointed as a Dinner Committee, and to make the necessary arrangements.

The PRESIDENT suggested that those noblemen and gentlemen who had been so instrumental in assisting the passage of the Veterinary Act through Parliament, and who had otherwise rendered friendly assistance to the profession, be invited as guests to the annual dinner.

It was relegated to the Dinner Committee to issue such invitations as they might think desirable.

Scrutineers.

The following gentlemen were elected scrutineers for the annual meeting: —Messrs. Alex. Bain, Alfred Broad, Ernest Batt, — Garside (Brown Institute), R. H. Cartwright (Wolverhampton), J. Cooper (Aldershot), — Burke (Army Veterinary Department, Woolwich), — Matthews (4th Hussars), — Woodger, jun.,— Beech (Aldershot),—Shave (Royal Veterinary College), — Dudgeon (London).

Annual Report.

On the motion of Mr. MORGAN, proposed by Mr. TAYLOR, the President, Treasurer, and Secretary were appointed as a committee to draw up the Annual Report.

The Condition of the House.

The House Committee were empowered to make some necessary repairs as mentioned by the Secretary.

Diploma.

The Secretary was instructed to have an additional 250 diploma forms printed.

New Honorary Associate.

The PRESIDENT proposed as an Honorary Associate of the Royal College, the name of Mr. Andrew Smith, Principal of the Ontario Veterinary College. Mr. Smith had a great claim to this honour. He was the first official that had been recognised in our American possessions. He had founded a school there, and conducted it with great satisfaction to the Government of Canada, and he had also largely advanced the science of veterinary medicine in

those regions, being a very earnest worker, and held in high estimation by the Canadian Government.

Mr. DRAY seconded the motion, which was carried unanimously.

After the quarterly meeting,

A SPECIAL MEETING

was held for the purpose of considering some alterations in the rules and bye-laws, of which the President had given notice.

The PRESIDENT explained the nature and effect of the several proposed alterations, when it was proposed that the whole question of considering the bye-laws should be referred to a committee, because in many instances it was found that no bye-law that could be made at present could over-ride the charter, and it was necessary that they should be so framed as to be in accordance with its provisions.

The PRESIDENT said there could be no objection to this proposal. The task of revising the bye laws would be a very heavy and serious task, and even after they were revised by a committee and approved by the Council, perhaps it would be necessary to refer them to some legal authority to see how far they harmonised or conflicted with the Charter. The proposal was therefore carried.

The Council then adjourned.

SOUTHERN COUNTIES VETERINARY MEDICAL ASSOCIATION.

THE annual meeting of this Association was held at the Rose Hotel, Canterbury, on April 3rd.

There were present Mr. Geo. Fleming, F.R.C.V.S., president; Messrs. J. B. Martin, M.R.C.V.S., Rochester (hon. secretary), W. Cawthorn (treasurer), Hadlow; J. E. Elphick, A.V.D. (h. p.); Geo. Fordham, Willesborough; J. H. Cooper, Dover; Chas. F. Hogben, Dover; Chas. Morgan, Nonington, Sandwich; Wm. Coveney, Headcorn; A. E. Catt, Maidstone; T. F. Hogben, Lyminge, Hythe; Henry Jarvis, Burwash, Sussex; J. Gibbs, Bromley; P. A. Rock, Chelsfield: J. H. Adams (visitor), Hurstgreen; T. Bolton (student), London; Henry Hogben (Dover).

The HON. SECRETARY said he had received letters and telegrams from seven or eight gentlemen apologising for their inability to attend, in consequence of the pressure of business.

The PRESIDENT proposed the election of Mr. H. L. Simpson, of Windsor, as a joining member, and suggested that he be also nominated as a member of Council of the Royal College by the Association. This was seconded by Mr. MARTIN, who said the Southern Counties wanted to be fairly represented on the Council.

The PRESIDENT said that as they were aware, owing to the last quarterly meeting falling between Christmas and New Year's Day, they could not hold a meeting; and he thought it was most desirable that the time should be altered, so as to avoid this inconvenience.

Mr. FORDHAM thought it was desirable to hold three meetings instead of four in the year, omitting the December meeting.

On the suggestion of the President, Mr. FORDHAM gave notice of a motion for the alteration of bye-law No. 8, in accordance with his suggestion.

Mr. MARTIN proposed the re-election of Mr. Fleming as President for the ensuing year. They could not afford to lose him. (Cheers.)

Mr. FORDHAM seconded.

The PRESIDENT thanked them most heartily for the honour they would confer upon him; but considered that the office of President was so im-

portant and honourable that it should not be held too long by one person. He preferred some one else being elected to the office this year, and suggested that they might find some member who would discharge the duties appertaining to the chair, if not with more zeal, at least as efficiently. It was an honour that every member of the Association should aspire to. He therefore asked them to consider the matter further before deciding upon the proposition.

Mr. MARTIN said that without indulging in any fulsome adulation of the President in his presence, he was bound to say that Mr. Fleming had done them so much good that they must not listen to his protest, but must have him. (Cheers.)

The PRESIDENT replied that if it was their urgent desire that he should serve again, he would be most willing to do so. (Cheers.) These associations, he added, are extremely valuable, especially at this time; and therefore he hoped that in the ensuing year there would be a large accession of members; if by example or by precept he could further this by increased efforts on his part, those efforts would be made.

The next business was the election of Secretary.

The PRESIDENT, remarking upon the indefatigable exertions of Mr. Martin, proposed the re-election of that gentleman to the office. He thought they might go a great deal farther and fare a great deal worse. (Hear, hear.)

Mr. GIBBS seconded. He remarked that Mr. Martin had taken a great deal of trouble in organising the Association.

Mr. MARTIN said he should have great pleasure in working again with Mr. Fleming. All the time Mr. Fleming was president he should be glad to act as Secretary. (Cheers.) The Association was originated for the purpose of strengthening the hands of the President in carrying the Veterinary Surgeons Bill through Parliament for the protection of the qualified men, besides the discussion of various subjects of interest to the profession.

The PRESIDENT next proposed the re-election of Mr. Cawthorn as Treasurer, which, like the previous propositions, was unanimously agreed to.

A vote of thanks was accorded the office-bearers of the past year.

The Vice-Presidents were re-elected, viz., Messrs. R. A. Stock, F.R.C.V.S., Lewes; Gibbs, M.R.C.V.S., Bromley; G. Balls, M.R.C.V.S., Brixton; and G. Fordham, Willesborough.

The PRESIDENT then said: I do not know that there is much to address you upon which you are not already fully aware of. You are as well informed of the changes which have taken place within the past year as myself. You are aware that since the institution of this Association, an important Act of Parliament has been passed by which the veterinary profession obtains legal recognition and a position equal to that of any other liberal profession in these kingdoms. They are objects which the profession, since its formation into a corporate body, has earnestly striven to achieve; and I can assure you that nobody in the profession exults so much as myself over our success in freeing ourselves from a thraldom—from bonds which were as injurious to us, as a profession, as they were galling to our feelings. I think the Act which was passed last August is not only an Act that will confer great future benefits upon us, but that even at present it confers benefits not to be ignored. The benefits which it confers you are aware of; and from my experience of the Act already, I can say that a large amount of good will accrue in a very brief space of time. As you are aware, a certain period was allowed for qualified men to claim registration. That period was from the 27th August, 1881, to the 27th August this year. After that time no application for registration can be received.

The applications for registration are very numerous. Already some 1,500 have been made, but many of the applicants have not complied with the regulations drawn up by the Council of the Royal College, and therefore they are in abeyance. Some members of the Council were very much disposed to recommend the fixing of a fee as high as ten guineas for the registration of unqualified persons. I myself thought it should be six guineas, because there were many things to look to in enforcing registration. In the first place, registration itself confers no privileges on those who are registered. Those men who are not qualified and who have adopted the title of veterinary surgeon years ago, will be no better by the Act than they were before. Therefore they had such a strong case themselves that the feeling of Parliament, and in fact the feeling of the country, was largely in their favour; and if we had proposed a fee which would in a certain sense be prohibitive, I think we should have been condemned by the country. I thought a medium fee, such as six guineas, would meet the requirements of the case. I had an interview with the Lord President, Earl Spencer, who has taken a very lively interest in the whole procedure and has proved himself a staunch friend to the profession. At that interview his lordship impressed upon me the necessity of being as liberal with the unqualified men as we could, and we discussed the amount of the fee. He thought certainly six guineas was too high. It had been represented to him by petitions and deputations that the unqualified practitioners numbered about 7,000 in the three kingdoms, and if that computation was correct, the Royal College would obtain 42,000 guineas from them. Ultimately his lordship desired me to put the case in writing, which I did; and in the course of time a letter was received from the Privy Council saying their lordships had decided that the fee should be three guineas up to the 1st April and after that, up to the 27th of August, six guineas. As I have said, up to April some 1,500 have applied for information, but a large number of the applicants have not gone beyond this. When one of these men applies to be registered he receives two forms from the Secretary to the Royal College, one of which compels him to get a certificate from a justice of the peace that he has been practising continuously for five years as a veterinary surgeon, and the other is the production of a certificate as to moral character, also from a justice of the peace or some gentleman of position. I think some 300 or 400 only have complied and have sent in their fee. After this time and up to the 27th August applicants will have to pay six guineas for registration. I do not know how many may apply, but I certainly think Earl Spencer has been misled as to the number. If, after August 27th, unqualified persons are not registered they will certainly be open to punishment if they designate themselves Veterinary Surgeons after 1883. Therefore, I trust the majority will apply, and their cases will be considered. Before these men are registered, their names will be advertised in the public journals in the localities in which they live, so that the members of the profession may have a voice with regard to their fitness for registration, which I think is very judicious. (Hear, hear.) I think it is fair, because while the Council of the Royal College is determined that these men shall have every fairness shown them with regard to registration, it is also determined that the profession itself shall have notice as to who are to be registered. The ensuing year will be a very important one for the profession—the most serious, perhaps, in its history. We have claimed a position from the public, which it is highly incumbent upon us that we should worthily maintain. We have claimed to be a liberal profession; we claim to be better in every respect than the unqualified men; we claim to be worthy of legislation, and having obtained legislation I think we should show ourselves in every way deserving of the confidence which has been shown us. Every day the importance of our profession increases; as far as I can see

its value is ever rising in the public estimation. Not very many years ago it was simply a profession for the cure of disease. Now its functions are extending, and it is felt that we should not only be able to cure disease, but that we should also prevent it. It is a profession which even extends its sphere beyond that of medicine, because I think if ever there was a profession which should assist agriculture, which is so largely concerned with animals, it is ours. With our knowledge of anatomy, physiology, and hygiene, we, as a profession, should be largely instrumental in developing and in perfecting the breeds of animals in these kingdoms. This is a direction in which our profession has done but little as yet. I think veterinary surgeons in breeding districts should be highly valuable in assisting farmers and others in improving the breeds of domesticated animals. (Cheers.) I do not know anything which would raise the members of the profession more in the esteem and gain more the credit of the public than our being able to improve the breeding and health of domesticated animals. We are not only acquiring a better position with regard to the treatment of disease, but as I said, we are also doing a good deal in the prevention of diseases. It is impossible, looking to the events of the past eighteen months or two years, to overlook the immense strides which have been made in general pathology by veterinarians. One of the grandest discoveries of modern times, perhaps, will result from what has lately been done, and I think there is every prospect that, in the course of a very brief space of time, we shall be able, by means of the cultivation of the different viruses of disease, to make disease its own antidote, to apply the virus of disease in the prevention of disease. I need only refer in passing to the remarkable discoveries of M. Pasteur and our own colleagues, Chauveau, Toussaint, and Galtier, on the continent of Europe, to show that this power is in our hands. I think it will be for the veterinarian of the future to apply this knowledge in the prevention of disease by the cultivation of the virus, and so render the sufferings and loss of animals less and less. So far as the events of the last year lead us to judge, we are making great progress, and our position is steadily improving. Not only are we rising in the estimation of the public, but we are even being recognised by a body of men—by a profession which has been watching us with jealous eyes, and which has not been extremely generous to us—I mean the medical profession. I think that in spite of them we are compelling their admiration—compelling their attention; and I think the time is not far distant when the veterinary profession will stand hand-in-hand with the medical profession as protectors of the public health and as defenders of the public wealth. I should now like to mention a matter which, though personal to myself, will I am sure interest you as showing what the profession can do. Speaking to the President of the Pathological Society, Dr. Wilks, on the question of vivisection, we were regretting the fanatical course adopted by a large section of the public in the shape of anti-vivisection societies for agitation against experiments upon animals, and I happened to make the remark that if we did not resort to the test of inoculation for Glanders we could never successfully cope with the disease. Dr. Wilks is a great lover of animals, and especially is he a student of animal diseases; and this struck him in a new light as a very strong argument in favour of experiments. A few days afterwards I was asked to write an article for the *Nineteenth Century*, setting forth the benefits derived from experiments upon animals. I did so, and I may truthfully say that that article attracted even more attention than the writings of Sir James Paget, Sir William Gull, Dr. Lauder Brunton, and Dr. Wilks himself. Hitherto the public has known little of us as a profession, and it has known very little indeed of our work. We have been content to assume a very humble position —to fulfil our modest functions and keep there. People know all about human

diseases; everybody has heard of the ethics of vivisection; but the facts which I was able to lay before the public as to animal diseases, and the new discoveries in the cultivation of virus, have attracted great attention, and a few days ago I was written to by a leading physician in London to be present at the meeting of the Royal College of Physicians, which was to be representative of all the medical scientific societies of London, but especially those of medicine, and also representative of all the medical universities throughout the three kingdoms. He enclosed me a draft list of the rules of a proposed association for the advancement of medicine by research, and on looking down the list of societies and universities that were proposed to form the association, I noticed to my deep regret the omission of the Royal College of Veterinary Surgeons. I immediately wrote to the physician who had asked me to attend, stating that I could not do so as representing the veterinary profession, and pointing out that the profession had strong claims for recognition in medicine and research. I considered it as a slur upon the profession for me to be asked to attend as an individual and not as representing the Royal College of Veterinary Surgeons. After the lapse of two or three days I received a reply saying that it was an oversight on the part of the medical profession not to have invited our profession to the meeting, but that it had been remedied at once, and that the President for the time being of the Royal College of Veterinary Surgeons had been elected an *ex-officio* member of the council, and that I myself should be nominated a representative member of the council in perpetuity. This is the first time we have had an opportunity of vindicating our profession in this direction—the first opportunity we have had of distinctly vindicating our right to be represented in what concerns public medicine, and especially the advancement of medicine by research. I merely mention this fact to show that our welfare is in our own hands. Let each of us feel that a heavy responsibility rests upon him, let us all do our duty, and we shall be duly recognised. There is a feeling among some members of the profession that we should keep in the background; but that is entirely wrong. It rests with every one of us to bring the profession before the public, and by doing this we shall soon find ourselves rising from that obscurity which we have been in for so long. There is a splendid future before our profession. We have the largest empire in the world. Our wealth mainly consists in animals. The boundaries of our empire as they are cultivated, or become civilised, require skilled men, and they will be found. It is for us to take the lead in veterinary medicine. We are the best horsemen in the world, we have the best horses and cattle in the world, and we should have the best veterinary surgeons in the world; we should have well-trained veterinarians, men well skilled in their art, well educated men who would not only be an honour to the country, but who would do the country immense service by their professional skill. (Cheers.) I thank you for listening to me so patiently. I came here to-day not prepared to deliver an address; and therefore I crave your indulgence. I only hope that the auspices under which the society commenced its career will continue; the determination of the profession now is "onward," and I trust nothing may be done that will mar its progress. (Cheers.)

Mr. MARTIN then exhibited some morbid specimens in illustration of Navicular Disease in horses. The horse from which one bone was taken, worked for twelve months after he unnerved it. For the first four or five months it went pretty sound. In another case the horse worked with a fraction of the pedal bone. He had no doubt that the fracture was there when he unnerved it.

The PRESIDENT said he should speak in favour of neurotomy.

Mr. MARTIN mentioned instances in which he had performed neurotomy with success.

Mr. JARVIS, referring to the President's address, said in country parishes the justices frequently nominated unqualified practitioners for the post of veterinary inspector, the qualified men being passed over; this he thought was very unfair to the profession.

Mr. MARTIN said that in such cases the appointment was generally due to the fact of the friendly relations subsisting between the unqualified practitioner and the magistrates.

The PRESIDENT said it was a hardship, and had been recognised for a long time as such. He knew that the Veterinary Department of the Privy Council recommended that whenever there was a position to be filled it should be given to a qualified member. But it must be remembered that there was a local feeling in these cases. It was one of those things that would disappear in time. He was of opinion that unregistered men could not be appointed after December, 1883.

Mr. JARVIS was then called upon to read his essay on Parturient Apoplexy, or Milk Fever in Cows, which he did as follows:—

Mr. President and Gentlemen,—It is with feelings of very great diffidence that I appear before you to-day as an essayist, particularly when I know that many members of this association could have treated the subject I have chosen to read to you with greater ability, and in a much more comprehensive manner than I feel myself capable of doing. I beg, however, to crave your kind indulgence while I bring under your notice a few common-place remarks on the disease affecting cows, known as Parturient Apoplexy, Puerperal Fever, or Milk Fever. The very limited time at my disposal has caused me to make my paper short, but I hope it will give rise to such an animated discussion as will prove this a pleasant and profitable meeting.

When our respected secretary wrote to me in reference to this matter, I was induced to select this subject in consequence of my attention having been called to various articles in the *Live Stock Journal*, which I thought contained statements very misleading to the public, and prejudicial to the interests of the veterinary profession. It is a disease of immense importance to both the veterinary profession and the public, for I think no subject can offer more food for earnest thought, or more ground for scientific research. It is peculiar to cows in a parturient state, and shows itself either before or soon after parturition, the usual time being within thirty-six hours after, although, sometimes it shows itself on, but seldom after, the third day.

The first symptom that denotes any abnormal condition after parturition is a diminished secretion of milk, although in other respects there may be nothing to lead us to look for an attack of the disease. It is not many hours, however, before the animal is noticed to be getting uneasy, switching the tail, trampling the hind feet, and occasionally kicking up at the abdomen. We next find her staggering about the yard or box, with a wild expression of countenance, standing with difficulty; the visible mucous membranes are injected, pulse full and slow, breathing accelerated, loathing of food and suspension of rumination, remaining in this state until she either lies or falls down; she does not lie still, but rolls continually off the abdomen on to her side, occasionally attempting to rise, in which after several ineffectual efforts she may succeed, quickly to fall back into her former position; more often she will only partially get up and fall back again. There is soon evidence now of cerebral disturbance, the head is swung about, and continually changed from one position to another, first on the ground, then round on to the side, groaning repeatedly with each movement. The ears and horns are warm, while the surface of the body and legs is cold, the eyes become dull and sunk into the orbits, the pulse now changes from being full and slow to become small and quick, the breathing becomes slow and stertorous, and the animal is in a comatose state. If we stand behind her, should she

attempt to straighten the neck, it will be noticed to present two curves similar to the letter S. The rumen is tympanitic, the bowels are torpid, and the urine accumulates in the bladder. The eye is now sunk into the orbit that the finger may be passed into the cavity without producing the slightest sensation.

When death is about to take place, these symptoms are much better marked, the animal lies much quieter, remaining in one position almost continually; the mouth becomes cold, the breathing puffy, foaming at the mouth, rumen more distended, and the animal dies without a struggle.

Should the case be a favourable one, the symptoms last longer, and the first indication we have of a favourable character is an improvement in the countenance, the eyes become fuller, the circulation is more general, the head is raised up, there is a return of the peristaltic action of the bowels, evidenced by the presence of fæces in the rectum—presently she will take slight notice of her calf, and after a few ineffectual efforts to rise, succeeds—she will drink a little, and after a little time partake of food, the urine is voided, the fæces passed, and recovery speedily sets in.

The duration of the disease varies, in most cases lasting only from twenty-four to thirty-six hours, while in some cases it may extend to the third day. Many animals, I have no doubt, lose their life from the injudicious administration of medicinal agents or stimulants during the time they are in a state of coma, some of the fluids passing directly into the trachea, producing Asphyxia or acute Bronchitis and Pneumonia. Sometimes, however, the gaseous matter from the rumen, in its passage up the œsophagus, will carry with it fluids and ingesta, some of which pass into the air passages, producing the same results. These unfavourable symptoms show themselves more particularly when our patient appears to be recovering from the attack of Parturient Apoplexy. Our patients sometimes die from or have an attack of obstruction and inflammation of the third stomach, showing itself more particularly when the animal appears to have quite recovered from the attack of milk fever. It is impossible to say, with any degree of certainty, whether or not our patient may recover, for many cases that appear favourable will die, while many that we think must die will recover. Many animals are destroyed early in the attack, which, if allowed to have their chance would recover, while many cases that are stated to have recovered are never Parturient Apoplexy at all.

There are symptoms which may assist us in arriving at a decision, either favourable or unfavourable.

If the animal has an attack, at the time of, or quickly after parturition, coma showing itself soon after the attack, the eyes sunk into the orbits and insensible to touch; surface of body, extremities, and mouth cold; tympanitis, inability to swallow, puffing breathing, total suppression of the secretion of milk, and marked torpidity of the bowels, we may have her destroyed, for in all probability she will die.

Should these symptoms not be so plainly marked, the fæces passed, and the temperature of the body more general, we may think favourably of the case.

The cows most predisposed to an attack of Parturient Apoplexy are those in which the secretion of milk is large; while cows kept solely for breeding purposes, such as the Sussex stock—not being used for dairy, may be fed with impunity, and may calve under almost any circumstances—are entirely free from attacks of this disease, being confined almost entirely to cows kept for dairy purposes. There is no doubt a plethoric state of the system tends greatly to influence the attack; thus it is that the disease shows itself most in cows that are well fed and kept entirely for milking purposes, and the most serious of these cases occur where these animals are kept in confine-

ment, with a limited allowance of exercise and fresh air. There are of course exceptions to this rule, viz., in the short-horn breed of cows; some of them being naturally very heavy milkers, may be used only for breeding and exhibition purposes. The period of a cow's life at which the disease shows itself commences as a rule with the third calf, and although more susceptible to the attack at this period, and with the fourth, fifth, sixth, and seventh, can never after be considered free from the liability of an attack of the disease. The season of the year at which the disease is most prevalent is during the months of July, August, and September, where the animals have been running during the summer on luxuriant pasture, having consequently made flesh very fast. The animal, a very heavy milker, has been feeding freely up to the time of parturition, and this takes place in the midst of the digestive process; being busily ruminating, she is suddenly taken in labour, the calf is quickly born with but little exertion, the placenta is expelled soon after, and the uterus as quickly contracts; the blood well charged with chyle, and rich with nourishment for the sustenance of the fœtus, has to be retained and directed to another organ, the mammary gland; this we find does not perform its function; there is therefore a sudden change in the system of the cow; the bloodvessels have to circulate, and the animal system has to utilize that part of the blood, which but a short time before was directed to the womb, and now to the mammary gland for the maintenance of the calf. If we then take these matters into consideration, and knowing that the skin is cold, not performing its function, that there is a hypertrophied state of the system, the stomachs and bowels overloaded with ingesta and in a torpid state, the bloodvessels engorged with fluid, rich in its solid constituents, made rich to support an extra living animal, and that this blood is all charged to the system of the cow, through inaction of the mammary gland, the skin, and other secretory and excretory organs of the body—can we feel surprised that there should be a determination of blood to the brain, producing either congestion of its bloodvessels or rupture of their coats? It is an undeniable fact that but very few cases occur after a difficult parturition, or where the placenta is retained.

If we make a *post-mortem* examination of an animal that has died from Parturient Apoplexy, we learn but little to account for the characteristic symptoms which denote an attack of this much-dreaded malady. Where it is the system of destroying the animal to preserve the flesh for food, we have but few opportunities of examining the brain and spinal cord. The rumen contains a good supply of food, with more or less gaseous matter; the second stomach is in a normal condition; the third stomach generally contains rather a superabundance of ingesta between its mucous folds, the layers being thicker and drier than that found in animals slaughtered in health, or those that die under other circumstances. The fourth stomach generally presents a healthy appearance. The gall bladder usually is well filled with bile; this, with the state of the rumen and the third stomach, clearly indicates the suddenness by which the process of digestion was stopped. The intestines, although overloaded, are unchanged, excepting that the large bloodvessels are congested. The uterus presents a thickened and congested appearance, not differing however in appearance greatly to that which we should naturally expect to find after recent parturition. The lungs are generally congested, due in some instances to the presence of foreign matters having passed down the trachea, although it is a question whether this congested appearance may not be due to a poisoned condition of the blood, brought on by inaction of the mammary gland, the skin, and the principal secretory and excretory organs of the body. The bloodvessels of the brain in many instances present a congested appearance, while in some cases we find nothing to account for the characteristic symptoms shown by the animal during life, denoting a cerebral affection.

When called in to attend animals, where the owner is the subject of losses by Parturient Apoplexy, I have found it easier to prevent an attack than to cure the disease. The best preventative I have found, where the animals are on luxuriant pasture, is, to take them into a yard a fortnight or three weeks before they are due to calve, and feed them on dry food, with a view of checking the secretion of milk at the time of, and subsequently to parturition. Should they be tied up in a shed, or confined to a limited space, such as a pen or box, remove her also to a roomy yard as soon as her supply of milk has dried off, or a few weeks before calving; in both cases they will get exercise, very beneficial as a preventative. If she has been fed liberally, take off some of the liberal diet as soon as removed to the yard, and substitute it with food less nutritious, and consequently less likely to promote a large secretion of milk. Where this mode of treatment has been adopted, at places where one, two, or three cases have annually occurred, the disease seldom or ever is known to show itself. When the animal shows symptoms of approaching parturition, it is best to diet her, care being taken not to overload the stomach; the action of the bowels should be carefully watched, and should there be a tendency to constipation, a good saline aperient should be given, sufficient to act on and keep the bowels open. In all cases when parturition has taken place, a brisk saline aperient should be given, and the animal fed with mash diet, with chilled water to drink. Blood-letting as a preventative is advocated by many practitioners, but I think it is unnecessary, as the above treatment will prevent the attack in the majority, if not all cases. Many people advocate premature milking; this I think an unwise procedure, and an unnatural one; the secretion of the mammary gland is unduly excited, by which means a copious supply of milk is encouraged before it is required, and should the animal be predisposed to an attack of Parturient Apoplexy it will tend to aggravate the existing evils, and render the case far more dangerous to treat.

Our object in treating a case of Parturient Apoplexy must be to relieve the congestion of the brain, to stimulate the action of the skin and function of the mammary gland, and to induce the peristaltic action of the bowels. Much depends at what stage of the disease we are called in to treat the case—if in the early stages I should administer a saline aperient, followed quickly by a dose of oil; the oil is not likely to become absorbed into the system, but will permeate the hardened substances accumulated between the mucous folds of the third stomach (should they exist), and so prevent an attack of obstruction or inflammation of this organ. I think croton oil should be avoided in this disease, as from the torpid state of the bowels it lays in the alimentary canal, setting up a great deal of irritation in the mucous coat lining the stomachs and bowels. Stimulants should be given as early as possible, and I have seen the best results where large quantities have been administered at one time, and the animal left perfectly quiet; a liniment of mustard, turpentine, and oil, applied down the course of the spine; the animal should be placed and kept in an upright position, with bundles of straw, care being taken to bolster the head well up above the level of the body, to facilitate the flow of blood from the brain, and to prevent further cerebral congestion, also to prevent her knocking the head against any hard substances. The legs should be bandaged and the body clothed to induce a diffused circulation over the whole system. The rectum and bladder should be evacuated, and turpentine enemas injected into the rectum to stimulate the peristaltic action of the bowels. When an animal is in a state of coma, with inability to swallow, I have but very little faith in anything that may be placed within the rumen. After the large dose of stimulant (either whisky or brandy) is given, I have seen very good results from the administration, every two hours, of small doses of carbonate of ammonia

and the bromide of potassium. The ammonia will keep down Tympanitis, promotes the action of the skin, and stimulates its secretions; also excites the functions of the general secretory and excretory organs of the body; while the bromide of potassium will act as a mild sedative on the nerve centres and a depressant on the heart's action. The effect of the brandy stimulant is to stimulate the circulation and produce a state of warmth all over the body, also to induce the muscular energy, it also causes dilatation of the arterial coats, followed by quickening of the heart's action and fall of blood pressure. Bleeding has been recommended by many practitioners, and by as many condemned; theoretically it commends itself to our notice; while old practitioners tell us it should be avoided. My late partner tells me he has bled a great many; but he never knew but one to recover that was so treated. The udder should be stripped every hour or two, to remove any milk that may possibly be secreted, and also to stimulate the function of the gland. When an animal shows the first symptom of recovery, stimulants in small doses should be given, and kept on food easy of digestion, such as gruel and bran mashes. Under this mode of treatment I have been fairly successful, saving perhaps one animal in two or three. When an animal has once dropped with Parturient Apoplexy it is not advisable to risk her again. I knew a cow, three years ago, that was treated by my late partner. She was taken the third day after parturition. The cowman at once gave an ordinary cleansing drink and a glass or two of brandy. Nothing more was administered in consequence of my partner having recommended her to be slaughtered, believing nothing would do her any good. She, however, laid in a state of coma for forty-eight hours, after which time she gradually recovered, and with the assistance of small doses of stimulants and good gruel she got on her legs and did well. The following year this same cow went down again on the third day, and it fell to my lot to treat the case. I gave stimulants, followed up with small doses of carbonate of ammonia and bromide of potassium, clothed the body, etc., and on the following day she got up again and continued to do well. I remember a very peculiar case last July, in which the animal belonged to a surgeon. She did not calve soon enough to please the man, and he consequently informed the doctor, who immediately set to work to render assistance. On passing the arm into the vagina, he could not understand why there was no labour pains, and sent for me. On my arrival I quickly diagnosed the case as one of Parturient Apoplexy. I at once took away the calf; the womb was quite paralysed, otherwise it being a natural presentation, parturition would naturally have been quickly effected. The placenta came away easily after the calf. I at once gave a brisk saline aperient and stimulant combined, but the animal quickly went off into a state of coma, and considering it a case likely to prove fatal I had her destroyed. Another case I well remember to which my attention was called, and on my arrival I found the animal in a complete comatose state, the eye sunk and fixed, and insensible to touch, and the animal lay quite motionless. Considering it a very bad case I recommended her to be destroyed, but soon after this she showed symptoms of returning consciousness, and speedily recovered. Although the owner told me he had given a little whisky, I learnt afterwards that she had no less than two bottlesful in an hour.

Many cases to which we are called are simply dropping after calving, in which the loins become weak after having carried the calf for a long period —this is sometimes called Milk Fever, because they are unable to rise—but can easily be got over by the application of stimulants to the loins, and a little tonic medicine. In all cases looked upon as hopeless, I always recommend the animal to be slaughtered as early as possible, and the carcase used for food, and although condemned by many I never saw or knew of a case in which any mischief was done to any one eating the flesh in an ordinary way.

I feel that I have taken up sufficient of your time, and thank you for the patient hearing you have given me, and I trust that should I have omitted any portion of the subject that it will be supplemented by a lively discussion. Before sitting down I should like to read a few extracts I have cut out from the *Live Stock Journal* in reference to this malady, that those members who do not have an opportunity of seeing the paper may judge of the practical value of the hints given to the public by various stockowners who feel delighted to see their names in print, conferring a boon on the public free of charge.

The PRESIDENT, in complimenting Mr. Jarvis, pointed out the value of his essay and the importance of the subject; indicating also that it could not be discussed anywhere more appropriately than at that meeting. In the first place, he would remark upon the designation of the malady. The designation which our essayist fixes upon—the leading designation—is, I think, a most appropriate one Parturient Apoplexy is a different disease from Puerperal Fever, and the confounding of the two was likely to lead to errors in diagnosis, and also to grave danger. The indications which the essayist gave of the disease from its commencement until its termination were quite correct. But there was another disease which was essentially febrile, and it was a disease of very great importance. In Parturient Apoplexy, the flesh of the animal may be consumed with impunity; it is absolutely harmless if the animal has not been drugged with medicines which may injure the persons who eat the flesh. The flesh of animals which had suffered from Puerperal Fever should not be given for consumption, as it was dangerous. Therefore a distinction should be drawn between the two diseases by veterinarians; because frequently one reads of the term Puerperal Fever being applied to what is essentially an aplopectic form of disease. As to the bovine species, it is very remarkable that the disease should be chiefly confined to that species.

Mr. MARTIN said the best preventive for cows which were predisposed to, or more susceptible of the disease than others, was plenty of exercise and to keep the bowels well open. He had heard many say that the disease had been prevented by draining the system almost up to the time of calving; of course, that was where they did not care anything for the calf. Of course, with people who were anxious about the calf that would not answer. No doubt the system was surcharged with rich blood. After the calf was born the blood was suddenly thrown back upon the system, there was general fulness of the system; then it was no doubt a case of Apoplexy. From the large quantity of blood being thrown back upon the system, there was often a rupture of a blood-vessel. He had tried all sorts of treatment, but had been more successful with stimulants than any other plan. (Hear, hear.) He had also been in the habit of applying strong counter-irritants on the back of the head and down the neck. When he had found torpidity of the bowels, he had given stimulants. He had also administered strychnine to get the digestive organs to act better. But it was rather a dangerous practice to give strychnine, because if the animal was to be sent to the butcher the flesh might be affected. There was a question whether the flesh of cows affected with the disease was fit for human food or not. He never saw any hurtful effects from it. They wanted to arrive at a proper conclusion on that point. Mr. Martin related a case heard at Maidstone in which a man was prosecuted for sending a cow to market which had died from the disease, and was fined £10. Such cases as these were most damaging to a man's character; and if they could get an expression of opinion from the veterinary profession in favour of the flesh being used it would carry weight in courts of law. Reverting to the treatment for the disease, Mr. Martin said the disease seemed to indicate bleeding, but he never found any beneficial effects from it. He thought if they did bleed they must do so early. The province of the veterinary surgeon was preventive.

Mr. COOPER believed he had found benefit from the abstraction of blood four days before calving. He had two patients which suffered from the same form of disease. Two or three years ago he commenced bleeding the cows which were most likely to be predisposed to the disease, and since then he had not lost a cow. Whether the bleeding prevented the disease or not he could not say. He believed it was necessary to relieve the udder. As regards treatment he had been successful with a good aperient first, followed with ammonia in conjunction with good ale. He believed that the flesh of the animal slaughtered in due time was fit for human food.

The essayist stated that Alderneys and Shorthorns were the breeds most predisposed to the disease. The better the breed the more likely were they to have it.

Mr. GIBBS had given salts two or three days before the cow was expected to calve; afterwards he had administered ordinary calving draughts. He had never heard bromide of potassium suggested. Turpentine was a splendid stimulant. Treacle was a very good thing to use when giving turpentine, as it made the latter more palatable. He should like to know if any one had administered strychnine hyperdermically.

Mr. MARTIN said he had. When giving strychnine down the throat, the dose was two grains about three or four times; he did not think that would produce any ill effects.

Mr. FORDHAM said he had experienced the disease in sows, when it was rather more marked than in cows. He should like to know whether the essayist had tried the effects of aconite. He had, but he could not say his opinion was favourable to it. It was, however, very much recommended by some. He himself was more in favour of the essayist's mode of treatment. He had seen cases where the animals had apparently regained consciousness, so as to be able to drink and take a little food, and then to die two or three days afterwards. He had a case only the week before last where the cow was in a comatose state for a long time; after awhile it regained consciousness, and got up; then it relapsed and gradually swooned and was gone.

The essayist said that with regard to the administration of aconite he had had it suggested to him and had tried it, but he did not like it. He thought the action of aconite was to allay the action of the heart and lower the pulse.

Mr. HOGBEN said he administered aconite in conjunction with other treatment and stimulants, with success. In the next case of Parturient Apoplexy he again tried aconite, but in that case he was sent for rather late, and the cow died—the aconite treatment failed.

The essayist mentioned a case which he had last year—a cow which was down with Parturient Fever, and had received an injury. It belonged to a Spanish lady, who was very fond of looking after her animals herself, and just when his medicine was beginning to have good effect she rubbed some arnica down its back, and after its recovery she would have it that it was the arnica which cured it.

Mr. MORGAN said he had used tincture of arnica with good effect.

Mr. C. F. HOGBEN had had a case very similar to the one related by Mr. Fordham. A cow, after being comatose for some hours, apparently partially regained consciousness, got better next day, and took a little food and drink, but soon relapsed, and the day after died. With regard to bleeding a little beforehand he thought it was beneficial, if treated at the same time. Also with regard to milking before calving, he thought where the mammary gland was extended, it was a good plan to milk the animal once or twice before calving. He had sometimes employed different sedatives in conjunction with stimulants, with, he believed, beneficial results.

He thought tincture of arnica a very good thing; it would have special action on the skin and thus increase circulation.

Mr. MORGAN had two cases last week in which he used tincture of arnica with stimulants, in ounce doses.

Mr. CAWTHORN had treated principally with stimulants. As to bleeding, it might be a good thing if you were called in early enough, but there were very few cases in which you are. As a rule he did not bleed, thinking it did more harm than good. He should like to ask the essayist whether he would advise milking right through when a cow was predisposed to milk fever.

The essayist replied that he believed that, where there was no regard for the calf at all, to continue milking from one calf to another would prevent an attack; but he thought that, taking into consideration the system of the cow altogether, if you milk from one calf to another a cow was not going to survive that treatment long.

Mr. HOGBEN thought exercise was very important.

Mr. CAWTHORN said he had been successful in the prevention of the disease by exercising the animals, by turning them into a large yard, and by keeping them on short diet. He had been very successful in the prevention of the disease, but very unsuccessful in the treatment.

Mr. C. F. HOGBEN had also been successful in the preventive treatment. In one case which occurred two or three years ago, he advised some aperient drink to be given beforehand—two or three days—and another dose a few hours after calving; he prescribed some common bark with aperient medicine, and since then the cow had not had the disease.

The PRESIDENT thought the discussion had been useful and satisfactory, in so far as it tended nearly to the same conclusion with regard to preventive measures and judicious remedial measures. He might remark with regard to internal remedies that the administration of stimulants certainly appeared to be indicated, from the evidence which had been given in the course of the discussion. With regard to the use of ammonia, he thought they employed it too seldom. He thought that in all cases where there was a tendency to form of clot there was no better remedy. With regard to the use of the flesh of cows which had been affected with Parturient Apoplexy and Parturient Fever, he thought they should come to some conclusion as to either the noxiousness or innocuousness of it. They would certainly be wrong in recommending its use as food when the disease existed in the blood, but there was a difference in the two diseases; and where no dangerous drugs had been administered, he could not see how the flesh of animals sufferings from the first-named disease could be pronounced harmful. He would submit the following proposition: "That there are two diseases occurring at the parturient period, which are confounded under the designation of 'Parturient Apoplexy' and 'Parturient Fever.' That these diseases are widely different, inasmuch as the first-named is of an apoplectic and the other of a septicæmic character. That the first is non-febrile, and is marked by symptoms of congestion and extravasation of blood in the brain; the second is febrile and offers no symptoms of cerebral disturbance, except secondarily. That in the first-named disease the flesh is fit for human consumption, except in those cases in which drugs have been administered of an injurious kind during the life of the animal; while in the second-named malady the flesh is unfit for food and should be destroyed."

The essayist thought the names of the diseases were often confounded by veterinarians, but the two diseases were easily diagnosed. In one there was no accumulation, and animals would get on their legs while suffering from the disease. He should have very great pleasure in seconding the proposition of the President.

Mr. ELPHICK said one great diagnostic symptom was the temperature.

He found that in Parturient Apoplexy the thermometer registered not more than 101°, while in the other it went up to 108°.

Mr. MARTIN said it had been suggested to him by a letter he had received that some recognition should be made of the President's labours. Mr. Fleming was a man who did not know what an insuperable difficulty was, and he had shown great perseverance to obtain the Act for the protection of the profession. Of course, when Mr. Fleming took up the matter he put himself up to be shot at, and there was a great deal of opposition to the Bill, not only amongst the unqualified men, but even amongst the profession. Those who opposed him must have been jealous of his ability or success; they could not have conscientiously felt that what he was doing would be other than a great service to the profession. There was not another man in the profession who could take his place or who could do the profession so much good. Mr. Martin then proposed that, "In consideration of Mr. Fleming's untiring zeal, we, the Southern Counties Veterinary Medical Association, resolve that a testimonial be presented to him as an earnest evidence of our appreciation of and gratitude for his services in obtaining an Act of Parliament for the protection of the qualified members of the veterinary profession."

Mr. JARVIS seconded.

The PRESIDENT said he had been informed of the letter which Mr. Martin had received. He had no reason to complain of the ingratitude of the profession; and he could assure them that what he had done had been a labour of love. He was deeply sensible of the unfavourable position the profession occupied a quarter of a century ago, and conscious of its value and importance, he was even then anxious that its future should be brighter. He therefore set himself to work very soon after he had graduated, and resolved that whatever he might be able to do should be done for the veterinary profession—(cheers)—and he could assure them that no higher gratification could be awarded him than the knowledge that his colleagues were satisfied with his efforts. He would not like to stand in the way of the profession expressing its recognition of what he had done, but he could accept no pecuniary reward. At one time he did not think he should be able to accomplish so much as he had; but he could assure them that the Act of Parliament they now had was a great improvement upon the Act which was originally drafted, as it would stamp out the unqualified practitioner in a few years, which was more than he ventured to hope for at one time. And there were other advantages which were not in the first Bill. Remarking on the absence of the Canterbury members of the profession, he thought it did not reflect much credit on them. (Cheers.) The Society was a perambulating one, and they tried to meet in those districts where the largest number of members resided, but if they had surmised there would have been no members of the profession in Canterbury present, they would have fixed the meeting somewhere else. These meetings gave the younger members of the profession an opportunity of acquiring a facility in discussion which they could not otherwise acquire, and they also had an opportunity of gaining professional knowledge which would be most useful to them. He said there was one thing which he forgot to mention in his address that day. The Lord President of the Privy Council had consented to receive a deputation on behalf of the College on the 26th April. The deputation would be of a very influential character, and he hoped that by this time next year they should be in possession of a building—at least on the way to the possession of one—which would in every way be worthy of the profession and of the country in which they practised. (Cheers.) As to the election of members of the Council of the Royal College, he thought it was time that this association exerted itself. It was highly important that proper men

should be elected to serve on the Council; too much care could not be exercised in the selection. The men chosen should be not merely good practitioners, but men well acquainted with the history of the profession and its wants, and gentlemen in speech and behaviour. This would be the first year in which the association sought to be represented on the Council, and he would nominate the gentleman whom he had proposed as a member that day, Mr. Simpson, of Windsor. He was elected a vice-president of the College last year; and was a man of high standing in the royal borough, a Justice of the Peace, and a gentleman in every sense of the word. At the present time the representation was of a most one-sided character; one county alone—Lancashire—sent six members of Council. All the counties should be fairly represented, as well as Scotland and Ireland. He was glad to say Ireland was at last entering into professional fraternity with them; and when the Council were nominated he should bear in mind the name of Mr. Simcox, who had opposed to the very utmost the establishment of a licensing school for Ireland, and greatly exerted himself in other respects for the welfare of the profession.

The meeting signified its approval of the nomination of Mr. Simpson; and a hearty vote of thanks having been accorded the essayist and chairman, the proceedings terminated.

YORKSHIRE VETERINARY MEDICAL SOCIETY.

THE usual spring quarterly meeting was held at the Queen's Hotel, Leeds, on Wednesday, the 5th April, the President, Mr. Joseph Freeman, in the chair. The following members were present, viz.:—Messrs. M. E. Naylor, Thos. Greaves, James Freeman, J. Carter, J. W. Anderton, J. Tatam, Peter Walker, Parlane Walker, J. H. Ferguson, G. Schofield, B. Smith, J. E. Scriven, W. Lodge, T. Pratt, G. Hardie, H. Snarry, G. E. Bowman, T. C. Toop, and the Secretary.

Messrs. G. Whitehead, V.S., Batley; E. R. Harding, V.S., Leeds; C. Secker, F. Somers, students; and Dr. Goldie, Medical Officer, Leeds, were present as visitors.

Apologies for non-attendance were received from Messrs. E. C. Dray, F. Danby, J. Bale, John Freeman, J. Atcherley, and S. F. Fallding.

The minutes of the previous meeting were read and confirmed.

In consequence of Mr. James Freeman declining to be again a candidate for a seat in the Council, it was unanimously decided to nominate Mr. Broughton.

In the absence of Mr. Atcherley, the SECRETARY proposed:—"That, in the opinion of this meeting, it is desirable to establish a new veterinary journal, in order that the proceedings of veterinary societies may be more fully published."

Mr. CARTER seconded. The motion was almost unanimously negatived.

The SECRETARY proposed, and Mr. JAMES FREEMAN seconded the proposition:—"That this Society unites with the other societies in the movement to present a suitable testimonial to Mr. George Fleming for his unwearied labour in connection with the Veterinary Surgeons Bill."

Mr. GREAVES said he believed that Mr. Fleming would not accept a pecuniary acknowledgment of his services, but would accept the presentation of a portrait, or something of that character.

Mr. TATAM also spoke in support.

The motion was carried unanimously.

Mr. B. SMITH nominated Mr. G. Whitehead, M.R.C.V.S., of Batley, for membership.

Mr. GREAVES read a paper for discussion on "Cruelty to Animals," which

will probably be published in a future number of the VETERINARY JOURNAL. In the discussion that followed,

Mr. JAMES FREEMAN said he thought horses labouring under chest affection were often severely blistered unnecessarily; recommended the more efficacious treatment of hot fomentation to the walls of the chest. He would like to ascertain the opinion of the members whether the operation of nicking and docking were to be considered as acts of cruelty. The opinion of the majority were that these operations were not acts of cruelty when scientifically performed by veterinary surgeons.

Mr. FERGUSON said there were generally two sides to a subject, and he was afraid that many veterinary surgeons, instead of giving a strictly practical opinion in many disputed cases, were influenced by pecuniary considerations; thought that many cases of slight abrasions of the skin under the harness were cases for a caution, and not for a fine, unless the driver of the horse was cognizant of the wound previous to taking the horse to work. He was of opinion that cases of cruelty might be referred to two respectable members of the College, and their certificates taken as evidence.

Mr. PARLANE WALKER was of opinion that many of the Humane Society's officers were inexperienced, ignorant men; referred to the almost impossibility of preventing the skin of the shoulder being chafed during breaking a horse for harness.

Mr. NAYLOR said he was of opinion the society's affairs were badly managed, and that many poor men were unnecessarily fined instead of being cautioned.

The SECRETARY said that horses were often tortured by drenches being administered *per* the nose; another reprehensible practice was very prevalent, viz., dressing broken knees or other abraded surfaces with hot, stimulating mixtures, commonly called embrocation that will cure either an exostosis or a broken knee.

The discussion was continued by Messrs. PETER WALKER and B. SMITH.

Dr. GOLDIE said he was sorry the essayist had not grasped this important subject upon a broader basis; he was often pained by observing old, worn-out horses traversing the streets sadly overloaded, and much cruelty thereby inflicted. He was of opinion that a horse with a wound located under the collar or saddle was unfit for work.

Mr. FERGUSON proposed, and Mr. JAMES FREEMAN seconded a cordial vote of thanks to Mr. Greaves for his paper.

Carried unanimously.

NORTH OF ENGLAND VETERINARY MEDICAL ASSOCIATION.

THE usual quarterly meeting of this Association was held at the Turk's Head Hotel, Grey Street, Newcastle-on-Tyne, on 24th February, 1882.

The President, Mr. Mulvey, occupied the chair.

Present—Messrs. J. E. Peele, Durham; H. Peele, West Hartlepool; Mr. Hedley, Darlington; W. Temple, Chester-le-Street; W. Awde, Stockton-on-Tees; J. Gofton, North Shields; C. Hunting and C. S. Hunting, South Hetton; J. B. Nesbit, Fence Houses; W. Wheatley, South Shields; — Mitchell, Sunderland; H. Hunter, A. Hunter, W. Hunter, W. W. Smart, J. H. Wilson, C. Stephenson, and the Secretary, Newcastle-on-Tyne.

Apologies for non-attendance were received from Professor Walley, Messrs. T. Greaves, D. McGregor, and D. Dudgeon.

The minutes of the previous meeting having been taken as read, the CHAIRMAN said the first business was to consider a letter which had been received from Mr. Wm. Hunting, respecting a proposed new periodical to be

published monthly. They would have seen the letter which had appeared in the VETERINARY JOURNAL.

The SECRETARY (Mr. Elphick) said the plan of having a monthly paper had already been tried and was a failure. He did not think there was any necessity for a new paper. He thought they were sufficiently represented in the press already. He suggested that they should let the matter rest where it was.

The subject was accordingly dropped.

The SECRETARY next brought forward the subject of a proposed British National Veterinary Medical Association, to which attention was drawn by a letter from Mr. Banham, one of the gentlemen who acted as organising secretaries at the Veterinary Congress. What was asked of them was whether they would join the other veterinary medical associations in the country in establishing a national association in order to hold meetings and exchange views with one another.

The CHAIRMAN said he believed all the gentlemen who attended the Veterinary Congress were satisfied that much good had resulted from it. He would be glad to hear any of their views on the subject.

Mr. C. HUNTING said, inasmuch as the Congress was pretty well attended, and as most of the gentlemen who attended it were of opinion that these meetings did good, he moved: "That this Association lend its assistance and join with the other veterinary medical associations in assisting to form a British National Association."

Mr. TEMPLE seconded the motion.

Mr. HEDLEY said he was present at the Congress, and he agreed with Mr. Hunting as to the opinion of its usefulness.

The CHAIRMAN said he also could endorse Mr. Hunting's remarks.

The motion was then carried unanimously.

The CHAIRMAN said the next business was a proposed testimonial to Mr. George Fleming. A letter had been received from the secretary of the Southern Counties Veterinary Medical Association asking them to co-operate with that and other associations in presenting a testimonial to Mr. Fleming. It appeared that Mr. Fleming refused to be refunded in any manner or way for the expenses incurred by him in obtaining the Veterinary Medical Bill, and it was thought by members of the profession that that was a good opportunity for presenting to him some testimonial or token of their appreciation of the many literary and other labours that he had devoted to the interests of the profession.

Mr. H. HUNTER said he thought Mr. Fleming was fully entitled to all the recognition they could give him. (Hear, hear.) He had exerted himself in a way that perhaps no other man could or would have done to get the Veterinary Medical Bill, and he had assisted the profession generally by literature and in many other ways. He moved: "That we, the members of the North of England Veterinary Medical Association, support the testimonial to Mr. George Fleming." (Applause.)

Mr. J. E. PEEL seconded the motion, and asked what form the testimonial was likely to take.

The CHAIRMAN said he had no idea.

Messrs. A. HUNTER, HEDLEY, and HUNTING spoke in support of the motion, which was carried unanimously.

The SECRETARY then read a paper on "The Recent Epizoötic amongst Horses in Newcastle-on-Tyne and district."—

As there was no paper to be read at this meeting, I have taken the liberty to bring before your notice this recent outbreak of Influenza. I am sure we are all agreed that this is a very important subject, and one that requires a great deal of investigation. At present we know very little of the disease as

to its cause or origin, and how it is propagated. I must confess these are questions I cannot answer, and the more I try the greater the puzzle and mystery seems to me. The causes are very obscure. It occurs under all conditions of the atmosphere, upon all kinds of soil and geological formations. It appears at all seasons of the year, and in both hot and cold weather.

I have no doubt in my own mind that atmospheric changes and sudden changes of the temperature will and do assist in the development of the disease, or perhaps, properly speaking, make the animal more susceptible of taking the poison, whatever that poison may be, and also when the disease has made its appearance do, in conjunction with atmospheric changes and bad sanitary arrangements, in my humble opinion play a great part in the mildness or the severity of the attacks.

The present outbreak is a good illustration; when the barometer became very high, we had the disease in a much more suppressed and aggravated form. What the specific poison may be I think there cannot be two opinions —that it exists in the air, but in what form or shape no one up to the present date has been able to find out. However, I think much good can be done by the veterinary profession towards solving the mystery, hence my reasons for bringing the subject forward for discussion whilst fresh in our minds, and that by so doing we shall be able to exchange our ideas and opinions and compare notes.

The real cause or origin may not be found out in our day, but by recording our observations and notes, and handing them down to those who will follow us, we may at some future period assist in elucidating this obscure and troublesome disease.

We have had cases of Influenza, or supposed cases, in the district since February in last year. They were mostly cases associated with Bilious Fever, not to any great extent, a case or two breaking out occasionally in different parts of the country. It was not until the end of July or the beginning of August that it became more prevalent, and then it assumed that type known as Epizoötic Cellulitis. About the beginning of December its ravages became very extensive, in many large studs from five to twenty-five horses being laid off together; in a few instances the whole stud was affected at the same time. With the new year the symptoms again changed from what were then considered simple cases of swelled legs and eyelids, with fever. We got a much more severe form, with abdominal or enteric complications; no external appearances, the poison being suppressed within the system, attacking the internal organs, producing Colic, Diarrhœa, great prostration, and in many cases almost total loss of vitality, and unless prompt steps were taken death soon put an end to the animal's sufferings. In a few cases so sudden and rapid were the attacks that the animals died almost before any medical remedies could be applied.

I do not know if all you gentlemen have observed that in the present outbreak cart-horses appear to be almost the only animals attacked. Higher-bred animals have almost entirely, or with few exceptions, escaped. Why this should be is beyond my comprehension.

There are many instances where better-bred horses have stood in the midst of the disease the whole time it was on the premises without the slightest injurious effect. I have ridden my own horses into the midst of the disease, tied them up in the same stable in the next stall without any apparent bad effect. I do not say that it has not attacked better-bred horses, but of the number of cases I have attended, fully 95 per cent. have been cart-horses. I have also noticed that half-bred animals, such as van and tradesmen's horses, have not been so severely held, and have recovered much quicker.

In several cases the poison has localised itself in some part or organ where previous disease had existed. This was very noticeable in horses suffering from cramp or any nervous affection.

In one case (a roarer) the disease attacked the throat to such an extent that he nearly choked ; the difficult breathing (roaring) could be heard for a considerable distance.

Epizoötic Cellulitis is the first form of the disease to which I will draw your attention. The symptoms are well known to you all, and need no description from me.

The treatment I have found most successful has been stimulants, such as whisky, aromatic spirits of ammonia, acetate of ammonia, carbonate of ammonia, and spirits of æther. nit., and plenty of nitrate of potass in water to drink. When constipated, I have given with success hyposulphite of soda, aromatic spirits of ammonia, and tincture of gentian combined, and two or three times a day warm-water injections. The action of the bowels require careful watching, not to produce diarrhœa. A slight purge does good, as it tends to relieve the system of any deleterious material.

The purging should not be allowed to continue for any length of time; the patient being in a weak state, cannot stand too severe a strain upon the system. Great care must be taken not to stop the purging too quickly,

To stop the diarrhœa I am very partial to small doses of port wine and whisky combined, and given at frequent intervals. I have also given with the wine and whisky from half an ounce to an onnce of tincture of cinchona.

I have had three deaths, two of which were the first attacked in each stable. Little notice was taken of them for a few days, until they could go no longer. They were extreme cases when I was called in. I found them prostrate, pulse imperceptible, visible mucous membrane highly congested, cardiac complications, and diarrhœa. The third was recovering from strangles when he contracted the disease. He appeared to be doing well for three or four days, when he was attacked with Bronchitis. I ordered a mustard blister to be applied down the course of the trachea and over the front of the chest ; this appeared to give immediate relief. The attendant then left him for a short time. On his return the patient was down, struggling violently, and unable to rise, and before assistance could be obtained death put an end to the scene.

I made a *post-mortem* examination upon this horse ; the other two were too far away. I found little or no trace of disease except in the trachea and bronchial tubes, which were full of frothy mucus, and in the heart a large fibrinous clot.

The next form to which I will draw your attention is the enteric, with abdominal complications. This has given me a great deal of trouble and anxiety.

The first symptoms noticeable have been dulness, loss of appetite, quick, weak pulse, almost imperceptible, in some cases no pulse at all, and when able to count it from 80 to 100 beats per minute. The visible mucous membranes were highly congested ; in some cases they were of a dirty red-brick colour, the blood-vessels congested, and full of very dark blood, the tongue and mouth very dirty and fetid, very restless, shifting from one leg on to the other, standing back in the stall, occasionally colicky pains, fæces dry and covered with mucus, urine passed in small quantities and often, frequently laying for a short time, or not at all, and very feverish. The thermometer varying from 102° to 106° F., with few exceptions ; there has been no cough, running at the nose, and no external swellings when first attacked. The legs and eyelids generally began to swell when they got the turn. This I have always regarded as a very favourable symptom.

In one case this was well marked; it was one of the worst cases I have

had to treat that recovered. He was attacked very similarly to the others, except that the symptoms were more suppressed. He was put into a comfortable loose box and ordered to have anything he would eat. I gave him four times a day aromatic spirits of ammonia and acetate of ammonia, and alternately bicarbonate of potassa and nitrate of potassa in his water to drink. He continued in this state for three days; on visiting him in the evening of the third day the attendant informed me he was much worse, and that if I did not look sharp he would be dead before I could see him. I found him in a state of collapse, pulse about 92, stertorous breathing, nostrils dilated, and very restless colicky pains; thermometer 105° F., partial cold sweats about the ears, neck, flanks, and behind the elbows; mucous membranes and tongue congested, blue-black, more the colour of slate, mouth cold, clammy, and fetid; acute diarrhœa, which was very offensive. The watery fæces, mixed with half-masticated hay, ran from him without an effort. He was so weak that if he attempted to move he either fell upon his side or haunches. It was a case of death or glory. I immediately gave him half a bottle of whisky with a little warm water. This was given with great difficulty; any attempt to raise his head caused him to fall. I got it into him by propping him against the wall, by this means holding him up. I then blistered the abdomen with mustard, turpentine, and hot water. I stayed with him for an hour, when he seemed much easier. I left him, ordering the whisky to be given every four hours, and well boiled oatmeal gruel to drink. Next morning I found him rather better, much stronger on his legs, mucous membranes cleaner, pulse very weak, almost imperceptible; still purging; thermometer 104°; picking a little hay; continued the whisky. At night he was much the same, except that the legs and eyelids commenced to swell; gave whisky as before.

The following day I thought him a little better. The eyes were completely closed, and a watery discharge ran down the cheeks; thermometer 103°; not so much purged; continued the previous treatment. From this time he continued to improve, but very slowly. The whisky, with the addition of port wine, was continued, but in smaller quantities and at longer intervals. I also gave small doses of prepared chalk in his gruel to assist in stopping the diarrhœa. When he was able to open his eyes the anterior chamber of the eye was full of turbid fluid, obliterating the sight.

It was eighteen days from the first day he was attacked before he was able to leave the box for a little exercise.

He is now doing his regular work, apparently no worse for the very severe attack.

This case is typical of the majority of cases I have had to attend.

Treatment.—I have generally given stimulants from the first, with salines. If strong symptoms of colic, hyposulphite of soda and aromatic spirits of ammonia. If the pain was very severe, chlorodyne and hypersulphite of soda and warm water enemas until the bowels were relieved.

Enemas are very beneficial, and cannot be too strongly recommended. Care must be taken not to produce super-purgation. I have had four deaths from this form of the disease; at least the disease got the credit of killing them.

The first died very suddenly. So little was observed to be the matter with him when visiting the stables in the morning that I was not asked to look at him. During the afternoon he was taken suddenly worse, and died in about an hour.

The *post-mortem* revealed acute congestion of the bowels, with effusion of blood into the alimentary canal.

The next death occurred under very similar circumstances. This horse when first taken ill showed all the usual symptoms of the enteric form, with

acute colicky pains and a slight distension of the abdomen. I gave him a good dose of linseed oil with chlorodyne; he appeared to be doing well when laminitis set in. The feet were poulticed, and to allay the excitement, I ordered fifteen minims of Fleming's tincture of aconite; about two hours afterwards he was found dying. He was enormously swollen, tongue protruding, and large quantities of saliva running from the mouth; frequent attempts to vomit. Of course he died.

Post-mortem.—Ruptured stomach and congestion of the bowels.

During the few years I have been in practice I have had several similar deaths, all when recovering from influenza. The two other deaths were both alike. All the usual symptoms were present with slight pulmonary affection.

Stimulants were given, and blisters applied down the course of the trachea and over the front of the chest. About the fifth or sixth day after the commencement of the attack a sanious discharge began to run from the nostrils, fetid breath, hurried breathing, quick weak pulse, anxious countenance, and diarrhœa. The *post-mortem* revealed gangrene of the mucous membranes of the trachea, bronchial tubes, and the anterior lobes of both lungs, which are full of small abscesses. The abscesses were full of the same sanious material that was discharged from the nostrils.

Strangles existed in the stables. Had it anything to do with the abscesses in the lungs?

Gentlemen, with these few imperfect remarks I must close. I sincerely hope a good discussion will ensue, and that some good may be the result, not only for ourselves, but for the benefit of the public at large.

Communication from Professor Walley.

For upwards of twelve months many cases of pure Biliasis or Yellow Fever have occurred in Edinburgh and Leith, and while in some respects its characters were similar to the present outbreak, the fever was higher, the course of the disease more prolonged, and the complications and results more serious.

The first appearance of the present epizootic was about six weeks or two months ago, but it did not make rapid strides until within the last fortnight.

It is marked by two sets of symptoms:—(1) Considerable tumefaction of the limbs and eyelids, and dropsy of the cornea, differing in no respect from previous outbreaks of *Effusive Fever*, and although accompanied by much weakness, as a rule it is benign in character; in only one or two studs have I seen this type pure and simple. (2) A low form of fever marked by great debility, lassitude, stiffness of limbs and body, with uneasy movements, indicating pains in the joints from effusion into the capsules and into the sheaths of the tendons, with a great tendency to back into a corner, and to rest the quarters against the wall, manger, etc. Very slight discharge from the eyes, and that of a muco-lachrymal character; tumefaction of the eyelids, though not so pronounced as in the effusive type, and a deep reddish-yellow colour of the conjunctiva; sometimes nasal effusion and stertor; slight muco-nasal discharge; frequently sore throat, either primarily or secondarily; sometimes Colic; temperature usually about 105° Fahr., seldom over; pulse 60 to 80. In the worst cases I am on the *qui vive* for pulmonary effusion, which usually occurs about the third or fourth day, and pulmonary congestion. The most remarkable thing in reference to pulmonary effusion is that, except in one or two instances, it has been into the right lung, in this respect being similar to Yellow Fever, but, unlike it, there is not an immediate and temporary lowering of the temperature on the advent of the effusion.

So far I have had no unpleasant sequelæ and only one death, and that in an old horse which had not been well attended to, and whose lungs had

been previously damaged. In this case the lungs resembled a piece of liver, and the pleura was $\frac{1}{12}$th of an inch thick.

Treatment.—A dose of linseed oil and spts. æth. nit., with tinct. opii, if much uneasiness or hurried respiration (moderate purgation does good); stimulant to chest and throat if any lung or bronchial symptoms, followed by ammon. carb. vel acet. and spirit. æther. nitrici; salines, as mag. and pot. sulph., sodæ hyposulph., or pot. chlor., in the drinking of water. Belladonna on tongue if sore throat; ipecacuanha if cough; and immediately pulmonary effusion takes place potassii iodidi with ammon. carb., mustard to sides and hot cloths (I have one case just now with bronchial effusion and frothy serum pouring from his nostrils). If much cardiac weakness or pulmonary congestion I give whisky. The great mistake made in giving ammon. carb. is in giving it in *too small* doses and not often enough.

Mr. J. E. PEEL said he thought they must all feel very much obliged to Mr. Elphick for the able and instructive paper they had just heard. He had seen a good deal of the disease. Some of the cases were of a mild form, and some of them aggravated. Fortunately he had no deaths. As Mr. Elphick had shown, it assumed very different forms. Some of the symptoms were rather troublesome, and he had some difficulty in deciding whether they belonged to the type of disease or not. The incubative stage generally lasted from four to eight days. It attacked all breeds of horses, though he believed heavy horses suffered most. He quite agreed with Mr. Elphick about horses with any chronic disease being badly affected, especially a roaring horse, or a horse affected with cramp or spasms. He had also had complex cases; some of the horses had Diarrhœa to begin with, and others had attacks of Diabetes. The eyes were affected, and he noticed that it was invariably the off eye that was first affected, the left sympathising in a few hours. He found stimulating treatment most successful, and he thought it was a disease that was easily isolated. In his opinion it was a blood disease. He thought it was very amenable to treatment if taken in the early stages, but in some cases horses were worked till they were almost dead before any assistance was called in. He remembered a very bad case in which a horse had both Diarrhœa and Diabetes, and the heart's action almost ceased. The animal had been neglected till he was almost dead, but he recovered under treatment by stimulants.

Mr. H. HUNTER said he called the disease Influenza, and not Epizoötic Cellulitis, though he supposed its name did not matter much. He agreed with Mr. Elphick as to different forms it took. As far as his experience went, however, he thought the recent attack was more amenable to treatment than the ordinary bilious attacks that they had had. He perhaps differed from most present as to the treatment. He treated them, as a rule, with non-stimulants, and did not often require to vary that plan. In some rare cases he used stimulants, but in others simply tonics. His firm had hundreds of cases without a single death. They never found the great necessity that some people thought there was for stimulants. A peculiarity of this attack was that there were so many isolated cases. Light horses had escaped the attack almost entirely. He, however, thought the recent outbreak had not been by any means so fatal as the ordinary form of Influenza.

Mr. GOFTON and Mr. MITCHELL described one or two particular cases which had come under their notice.

Mr. C. STEPHENSON said he had been very much struck with what he had heard in the discussion. The more he heard about the disease the more he became convinced of how little he knew about it. He meant, of course, that he could not satisfy himself as to the cause of the disease—why some animals should become affected and others escape. He knew nothing about

the incubative stage, how the poison was carried, or what it consisted of. He was more puzzled now than ever, because while Mr. Elphick told them how very virulent the disease had been, Mr. Hunter said the recent outbreak was milder and more amenable to treatment than any previous attack he had known. For his own part, he thought it was the most virulent outbreak that had ever been known, certainly in the North of England. A noticeable fact was, that whilst they had had this attack amongst horses, there had been a great deal of sickness amongst the inhabitants of Newcastle. He had just been reading an admirable lecture by Dr. Young at the opening of Glasgow College, and there was one paragraph which struck him. Speaking of the germ theory and disease generally, he said :—

"I have insisted throughout on the necessity of the existence of a second factor in every case of disease on a preparedness of the blood of the patient."

Now they would remember when they had the cattle plague in Newcastle they often found cows that were plague proof, while others around them were suffering. That fact struck him as carrying out Dr. Young's idea of a second factor being necessary before the disease could be carried into the system. Dr. Young went on :—

"I have elsewhere had occasion to urge this in the case of Typhoid Fever, and what I then urged with a view to prevent a blunder in hygienic theory on the part of our health authorities I now repeat on scientific grounds. I some years ago insisted on Influenza being a phase of Typhoid when it occurs epidemically, and Dr. Henderson, of Helensburgh, had not made himself popular by setting forth something of the same opinion. My contention was that the poison of Typhoid, whensoever derived, had no power unless the patient was prepared, and I illustrated this thesis by the analogy of the seidlitz powder, in which the two ingredients come in contact in presence of water. You may have every gradation, from a Typhoid fatal in a fortnight to a lingering Influenza, with a Diarrhœa oddly enough occurring in its course, and not perhaps got rid of—at least not recovered from—for four or five weeks."

It struck him from this, taken in conjunction with the idea of a second factor being needed, that the attack of Influenza they had had amongst them might just have been a form of Typhoid. He could mention cases in which in stables where there were ten and twelve horses only two or three were affected, while all the rest escaped. Some had had perfect immunity from the disease, while others had succumbed very easily. Another thing that struck him was that he did not think that the condition of the animal had anything to do with the virulence or malevolence of the disease. Some of the worst cases he had seen were in the best conditioned animals. Nothing had been said by the gentlemen who had followed Mr. Elphick as to the prevention of the disease. He thought all their endeavours ought to be in that direction. They ought to aim at finding out the laws which govern the disease. He did not think that any one of them or any individual society ever could do that work. It would have to be carried out either under the Government or the Royal Agricultural Society's instructions. They would be aware that the Royal Agricultural Society voted so much money every year for the investigation of certain diseases. He would like to see the subject of this disease taken up. It affected hundreds of thousands of pounds' worth of horseflesh. The immediate loss of horses was nothing like the real loss sustained. The loss of time and work, and the extra expense incurred, represented a much larger sum than the losses in the cases of death. They knew how other diseases were carried, and what they were due to. If they knew as much about this disease they would know how to meet and combat it. (Applause.)

Mr. HEDLEY said he had been very pleased with the discussion. They had none of the disease in the Darlington district.

Mr. HUNTING said he did not see any peculiarity about the recent epidemic. He did not see any difference between it and other outbreaks which he had known during the last forty years. If there was any difference he thought the late visitation was more amenable to treatment than ever he had seen it before, nor was there any particular mode of treating it. According to the organs it affected—whether the digestive organs, the liver, or the pulmonary organs—so had they to shape their treatment. With respect to the nature of the disease he did not think they need despair. What they had to do was to use their common sense and treat the cases as they came up, and he was bound to say that if they were to count up the fatal cases during the late epidemic they would find that in no previous outbreak had there been so few deaths. Mr. Stephenson thought they ought to petition Parliament or the Royal Agricultural Society to investigate this disease. He apprehended there were many diseases it would be well to investigate closely, but was not that what they were there for? That was what the veterinary profession was for; and he apprehended that every one of them was able to do so for himself. Prevention was an important matter, no doubt; but so it was with every disease. Every one knew that isolation, cleanliness, pure air, and strict dietetic rules were the best means of preventing the spread of disease, and he did not think there was any one present who would not recommend these things.

Mr. STEPHENSON said he should just like to put himself right with the meeting. Mr. Hunting had ridiculed his idea of finding out the laws which govern the disease and its spread. But he would remind Mr. Hunting that a very few years ago they did not know how Pleuro-pneumonia was spread; now, however, they knew exactly how it was produced, namely, by cohabitation, and that they could not do anything to produce it until they put a diseased living animal into a healthy herd. It was the same with Foot-and-mouth Disease and other diseases, which a short time ago they knew little or nothing of, but which they now perfectly understood. He, therefore, again maintained that this disease, which was every now and again costing the country hundreds of thousands of pounds, ought to be investigated in some way such as he had indicated.

Mr. HUNTING: I hold that every veterinarian is bound to do all you say.

Mr. W. HUNTER said as to the treatment, he thought most present would agree with Mr. Elphick in regard to the use of stimulants.

Mr. NESBIT said he had noticed in colliery villages that whenever Influenza was prevalent amongst horses there was always a great amount of sickness amongst children, such as Scarlet Fever. How it was he could not tell, but there must be some atmospheric influences at work.

Mr. HUNTING said he, too, had noticed the concurrence of Influenza amongst horses and Scarlet Fever amongst children.

Mr. STEPHENSON: That all goes to prove that investigation is necessary.

Mr. CHIVAS and the CHAIRMAN also spoke with respect to the recent epidemic, the latter being of opinion that the disease had been virulent.

Mr. ELPHICK replied on the discussion. He said he thought it was impossible to definitely find out the incubative stage. He must say that in the recent outbreak he thought himself and one or two others had had what he might term the "dirty end of the stick." (Laughter.) He was exceedingly sorry that some of the gentlemen present had not had some of the cases he had had to deal with. In his opinion a more virulent form of the disease he had never come across. (Hear, hear.) He thought they had yet a great deal to learn on the subject, and without the assistance of Government or the Royal Agricultural Society he did not think the veterinary profession had

the means of conducting an efficient investigation. (Hear, hear.) He thanked them sincerely for the interest with which they had listened to and discussed his, he feared, imperfect paper. (Applause.)

On the motion of Mr. HUNTING, seconded by Mr. HEDLEY, a vote of thanks to Mr. Elphick for his paper was carried with acclamation.

The meeting then proceeded to the election of officers for the ensuing year, which was effected as follows :—President, Mr. F. Hunter, Newcastle; Vice-Presidents, Mr. J. E. Peel, Durham, and Mr. McGregor, Beddington; Secretary and Treasurer, Mr. Elphick (re-elected); and Auditors, Messrs. Stephenson and A. Hunter.

On the motion of Mr. PEEL, seconded by Mr. NESBIT, a vote of thanks was accorded the officers of the past year, and the ex-President returned thanks.

This brought the proceedings to a close.

GEORGE ELPHICK, *Hon. Sec.*

GLASGOW VETERINARY COLLEGE.

THE winter session of this institution terminated on the 14th ult. The attendance during the year has been the largest in the career of the College, the average number of students in daily attendance, in the three sections, being over a hundred. On the 10th, 11th, and 12th, the oral examinations of the Royal College of Veterinary Surgeons were conducted within the Museum of the College. The candidates for diplomas were also subjected to a rigid practical examination on horses, cattle, and sheep, selected and brought to the College for that purpose. The Board of Examiners included Dr. Dunsmure, Edinburgh; Mr. George Fleming, F.R.C.V.S., London; Mr. M. J. Harpley, F.R.C.V.S., London; Mr. Alex. Robinson, F.R.C.V.S., Greenock; Mr. Benjamin Cartledge, F.R.C.V.S., Sheffield; Dr. James, University, Edinburgh; Mr. A. Robinson, jun., M.R.C.V.S., Greenock. The following gentlemen were also present as *ex officio* members :—Principal M'Call, Professors Knox, Cooke, and Macqueen, Glasgow Veterinary College. The diploma of the Royal College of Veterinary Surgeons was obtained by the following candidates :—Messrs. Wm. A Macgregor, Pollockshields; James G. Dickie, Paisley; Wm. Wallace, Glasgow; Benjamin Hoadley, Carlisle, Cumberland; John D. Gemmell, Ayr, Ayrshire; Patrick D. Kelly, Cooraclare, county Clare; John Renfrew, Hurlet, Renfrewshire; Archd. M'Nicol, Glasgow; Joseph Hughes, Dundalk, county Louth; Alex. M. Crighton, Irvine, Ayrshire; John M'Lean, Glasgow; James S. Bond, Holytown, Lanarkshire; Andrew Carnduff, Howwood, Renfrewshire; Thomas F. Alston, Tolcross, Lanarkshire; John Freeland, Glasgow; and James Martin, Blantyre, Lanarkshire. Twenty-two students were also examined for the second professional examination, of which number the following passed :—Messrs. John Holland, Dublin; John Reid, Beith, Ayrshire; Wm. Frazer, Largs; Thomas Houston, Greenock; James Spalding, Blairgowrie; Samuel Hirst, Barnet, Herts; John Baxter, Overtown; Job M. Johnson, Belfast; Henry Tweedley, Barrhead; Alexander Brown, Holytown; Thomas Carnochan, Stranraer; Tom Marriott, Warwick; and Jas. Laithwood, Congleton. Medals granted by the Highland and Agricultural Society of Scotland; Professor Allen Thomson, London; Robert Walker, Esq., of Lethamhill, and Principal M'Call, and certificates of merit by the College, were awarded in the different branches of study as follows :—Horse Pathology (written examination).—Gold Medal (Principal M'Call)—Mr. John Renfrew. Silver Medal (H. and A. S. of S.)—Wm. A. Macgregor. First-class certificates—Messrs. Hughes, Kelly, Crighton, and Dickie. Second-class certificates—Messrs. Freeland, Gemmell, Hoadley, Martin, Wright, and Brown. Cattle Pathology (written

examination)—Gold Medal (Principal M'Call)—Mr. John Renfrew. Silver Medal (H. and A. S. of S.)—Wm. A. Macgregor. First-class certificates—Messrs. Dickie, Crighton, Hughes, and Kelly. Second-class certificates—Messrs. Hoadley, Martin, Gemmell, M'Lean, Brown, and Freeland. Practical examination of horses as to soundness, age, manipulation, etc.—Gold Medal (Principal M'Call)—John M'Lean. Practical examination of cattle and sheep as to age, operations, etc.—Gold medal (Robert Walker, Esq.)—Mr. John Renfrew. A special prize, consisting of a case of instruments, presented by Mr. Campbell, M.R.C.V.S., Kirkcudbright, for the best essay on Splenic Apoplexy—Awarded to Mr. Renfrew. Histology and Physiology Silver medal (H. and A. S. of S.)—Mr. Tom Marriott. First-class certificates—Messrs. Laithwood, Hirst, Holland, M'Nair, and Tweedley. Second-class certificates—Messrs. Baxter, Brown, and Weir. Anatomy (special and comparative)—Silver medal (H. and A. S. of S.)—Mr. James Laithwood. First-class certificates—Messrs. Ross, Marriott, and Tweedley. Second-class certificates—Messrs. Hirst, Spalding, and M'Nair. Anatomy (Junior)—First-class certificates—Mr. Thomas Butcher, Bewdley, Worcestershire; Mr. Andrew Leckie, Dumfries. Second-class certificates—Mr. A. L. M'Millan, Glasgow; Mr. Samuel M'Conechy, Bridgend, Islay. Best oral examination on Anatomy, Physiology, and Histology—Gold medal (Professor Allen Thomson)—Mr. Tom Marriott. Science and Practice of Agriculture—Silver medal (H. and A. S. of S.)—Mr. James Rodger, Inchock, Arbroath. Junior medal—Mr. Alex. Watson, Muirhouse, Eaglesham. Prize for Essay—A. Sept. Alexander, Belhaven Terrace, Glasgow. At the close of the examinations the president of the Royal College of Veterinary Surgeons (Mr. George Fleming) intimated that Messrs. Renfrew, Macgregor, Marriott, Hirst, Spalding, and Brown had passed with "great credit."

ROYAL VETERINARY COLLEGE.

THE quarterly meeting of the General Purposes Committee was held in the Board-room of the College on Monday, April 3rd, at 3 p.m. Present: Mr. Berens, Chairman; Lord Arthur Somerset, Col. Kingscote, Sir F. Fitzwygram, Mr. Collins, Mr. Barnard Holt, Mr. Harpley.

The Principal's report was read, and from this it appeared that the admissions into the College Hospital during the past three months had fallen somewhat below the average for the corresponding period of the last two or three years.

This might in part be accounted for by the unusual mildness of the early months of the present year, and the consequent healthy condition of horses in and about the metropolis.

The number of animals received and retained for treatment during the quarter amounted to 165, of which 150 were horses and 15 dogs, the several monthly admissions of horses being as follow: January, 44; February, 60; and March, 46. The average numbers in the stables during these months being for January 53; February, 53; and March, 61. The daily average for the three months amounting to 56, as against 61 for the terminal quarter of 1881.

The diseases for which horses had been admitted were, 1st, General, zymotic, and constitutional diseases, 34. 2nd, Local diseases, 58. 3rd, Lamenesses, 58. 4th, For special operations or examination, 15.

Of the first class of diseases, Catarrhal Fever and Influenza furnished 27 cases, Strangles 3, Glanders 2, Cholera 1, Ophthalmia 1.

The local diseases included 6 cases of Bowel Affections, 3 of Sporadic

Chest Disease, 13 of wounds and injuries, 13 of tumour and morbid growths, 3 of Chronic Nasal discharge, and 16 of skin diseases.

With regard to the gratuitous advice, it was reported that this department of the professional work exhibited no decline. The students who were expected to benefit by the varied character of the work were satisfied with the advantages which this practice had afforded, and had always entered into it, in all its details, with much earnestness. It gave ample scope for teaching practical manipulatory work, and the substantial benefit it conferred on the poorer classes was testified by the advantage taken of it. The entire work of dispensing and performing operations was done by the students, under the direction and supervision of the teachers.

In the first quarter of the present year, 170 original cases had been brought for advice and treatment, as against 135 in the corresponding term of 1881. As many of these animals made repeated visits to the College, no fewer than 465 separate inspections took place. Of this number 247 were cases of severe lameness, 218 of general, and the remainder of local disease. Upon these cases operative interference was carried out in 51 instances.

With respect to the school, the report stated that during the second term of the Winter Session teaching in all the classes had proceeded with great regularity.

The number of entrants at the beginning of the term was eight as against four in January, 1881, making forty-eight in all since the commencement of the session in October.

In conclusion, it was reported that during the present year three visits of inspection by officers of the College had been made to different parts of the country, on behalf of members of the Royal Agricultural Society, in addition to which several consultations had taken place, both personal and by letter.

A letter was read from the Secretary of the Veterinary Medical Association, suggesting, with a view to settle the differences which had arisen between the Governors of the College and the Council of the Association, that the Governors should be asked to receive a deputation from the Council. It was decided that a Committee of Governors be appointed, consisting of Mr. Berens, Sir F. Fitzwygram, Col. Kingscote, Lord Arthur Somerset, Mr. Collins, Mr. Harpley, and Mr. Holt, and that the Secretary of the Association be informed that the Committee would be happy to meet a deputation from the Council at four o'clock on the 18th April.

On the recommendation of the Principal, Mr. T. Pottinger, the Demonstrator of Anatomy, was appointed Curator of the Museum.

The names of eighteen new subscribers were submitted to the meeting, and they were declared elected, making a total of forty-one since the last quarterly meeting.

It was decided that a meeting of the General Purposes Committee should be held on May 8th, at 3.30 p.m.

ROYAL AGRICULTURAL SOCIETY.

AT the monthly meeting, held on April 5th, Colonel Kingscote reported that investigations with respect to Foot-and-Mouth Disease are being continued on behalf of the Society at the Royal Veterinary College, but at present no positive results have been obtained. The committee recommended that a cheque for £50 be drawn to cover the expenses already incurred. They also recommended that an additional grant of £100 be made for the purpose of enabling Mr. A. P. Thomas to continue his investigations of the life-history of the liver-fluke. With reference to this grant, Colonel Kingscote remarked that the investigations have now arrived at a most interesting point, and the

professional advisers of the Society were strongly in favour of the continuance of the experiments.

This report having been adopted,

Colonel KINGSCOTE said that, in the unavoidable absence of Mr. Jacob Wilson, in whose name stood a motion on the agenda paper, he was pleased to be able to express the views on the subject which were entertained by Mr. Wilson, and shared by others on the council, including himself. The suggestion was as follows :—"That it be referred to the Veterinary Committee to consider the desirability of appointing additional veterinary surgeons to the Society at certain centres in England and Wales, so that members of the Society may consult them on similar terms and conditions as they now consult the professors of the Royal Veterinary College." Under the present arrangement, the railway expenses, of course, fell very unevenly upon members residing in different parts of the country, and when they were long distances from London the expenses were naturally very heavy. It therefore seemed desirable that veterinary surgeons should be appointed in different centres, whose names would be published to all the members of the Society, and who would be available for consultation by them. He had thought it better to ask the Privy Council if they thought it desirable that this scheme should be carried out. Their answer was most favourable, and Professor Brown had drawn up a memorandum on the subject, in which he expressed an opinion that the proposed scheme could be carried out with advantage to agriculturists and veterinarians, and that there would be no difficulty in finding veterinary surgeons in the several districts who would be fully competent. He only proposed that the matter should be inquired into by the committee, and he hoped the council would instruct them to see if anything could be done in the direction indicated, the object being to bring good veterinary science nearer home to members of the Society who lived at great distances from London.

Mr. RANDELL said the proposal was so obviously beneficial to the members of the Society, that he had the greatest possible pleasure in seconding the motion to refer the question to the Veterinary Committee. He imagined there could be no difficulty in selecting the best men in certain districts.

The PRESIDENT remarked that as the Society already gave medals to gentlemen for proficiency in cattle pathology, possibly the committee would find themselves able to employ them, and thus add to the dignity of having gained the medals.

The resolution was then put and carried unanimously, and Sir Brandreth Gibbs and the Hon. C. T. Parker were added to the committee.

NEW MEMBERS OF THE PROFESSION.

AT the meetings of the Court of Examiners of the Royal College of Veterinary Surgeons held on the 27th, 28th, and 29th March the following students from the Royal Veterinary College were admitted members of the profession :—

Mr.	John H. Penhale	Torrington, Devon.
„	*Henry Edgar	Dartford, Kent.
„	Edward Laurence	Hampton, Middlesex.
„	*John S. Hurndall	Notting Hill.
„	Tom H. Greatbatch... ...	Stoke-on-Trent.
„	Herbert W. Pickworth ...	Boston, Lincolnshire.
„	Frank Glover	Solihull.
„	A. H. Archer...	Dunstable.
„	*Henry Sumner	Liverpool.

Mr. J. W. Edwards	... ...	Abergele.
„ R. H. McRaith	... ...	Lancaster.
„ James Smith ...	... ...	Louth, Lincolnshire.
„ S. H. Slocock	... ...	Upton Plough, Bucks.
„ S. T. D. Symons	... ...	Wadebridge, Cornwall.
„ Chas. Pack ...	... ...	Newtown, Christchurch.
„ *John Buscomb	... ...	Bodmin.
„ J. B. Gresswell	... ...	Louth, Lincolnshire.
„ *Richard Barker	... ...	Middlewich, Cheshire.
„ D. Evans ...	... ...	Lampeter, Cardigan.
„ R. J. Dawson...	... ...	Ipswich.
„ William Taverner	... ...	Newton Abbott.
„ *R. J. Smith ...	... ...	March.
„ Wm. Green ...	... ...	Gravesend.
„ Joseph R. Kinsey	... ...	Macclesfield.
„ Frank Joslen...	... ...	Maidstone.

The following students passed their "Second Examination" on the 30th and 31st March :—

Mr. *L. J. Blenkinsop.	Mr. *W. H. Bloye.
„ *Samuel Cliff.	„ H. J. Axe.
„ *John Morton.	„ *E. P. Evans.
„ *Martin Robinson.	„ R. Hill.
„ *S. J. Marriott.	„ J. B. Hart.
„ J. G. Parr.	„ A. Barrett.
„ *E. H. Hazleton.	„ James Mark.
„ C. W. Page.	„ Henry Ballard.
„ *J. V. Daly.	„ G. T. Pickering.
„ *E. F. O'Toole.	„ J. D. Arnfield.

The following passed their "First Examination" on the 1st April :—

Mr. J. S. Channon.	Mr. H. C. Wilkie.
„ J. Walker.	„ G. W. Roberts.
„ *W. Brookes.	„ F. Bazley.

* Marked thus passed with great credit.

THE DEPUTATION TO THE LORD PRESIDENT OF THE PRIVY COUNCIL.

On April 26th a deputation, organized by the President of the Royal College of Veterinary Surgeons, and representative of the numerous interests and sciences connected with or related to Veterinary Science, as well as of that science itself, waited upon Earl Spencer, K.G., Lord President of the Privy Council Office, Whitehall, to urge the claims of the Royal College of Veterinary Surgeons to recognition by Government in the matter of obtaining a suitable building. The deputation was more especially representative of agriculture, sanitary science, general science, public health, medicine, surgery, pathology, zoology, physiology, botany, chemistry, hippology, and humanity. It was composed of the following noblemen and gentlemen :—Earl Fortescue, Lord Aberdare, President, R.S.P.C.A. ; Lord Arthur Somerset, Viscount Down, Sir Francis Burdett, Bart. ; Major-General Sir F. Fitzwygram, Bart., F.R.C.V.S., Inspector-General of Cavalry ; Sir Trevor Lawrence, Bart., M.P. ; Sir Erasmus Wilson, F.R.C.S., F.R.S., President, R.C.S. ; the Hon. M. Mostyn, J. Simon, Esq., C.B., D.C.L., F.R.S. ; Sir T. D. Acland, Bart., M.P. ; Sir J. Lubbock, Bart., F.R.S., M.P., President, Linnæan Society ; Sir James Heywood, J. Howard, Esq.,

M.P.; J. Dent Dent, Esq., President, R.A.S.; Colonel Nigel Kingscote, C.B., M.P., Ex-President, R.A.S.; Colonel Milne Home, M.P.; Dr. Cameron, M.P.; Dr. Farquharson, M.P.; C. N. Newdegate, Esq., M.P.; Dr. Quain, F.R.S.; Professor Acland, M.D., F.R.S., Regius Professor of Medicine in the University of Oxford, President of Council of Medical Education; Professor J. Burdon Sanderson, M.D., F.R.S., LL.D., University College; Professor J. Flower, F.R.C.S., F.R.S., President, Zoological Society; S. Wilks, M.D., F.R.S., President, Pathological Society; Professor R. Bentley, F.L.S., King's College, Professor of Botany; Professor A. Voelcker, F.R.S., F.C.S., Professor of Chemistry; W. Allen, Esq., Barrister-at-Law, R.S.P.C.A.; J. Colam, Esq., R.S.P.C.A.; George Samuel Measom, Esq., J.P.; Wm. Gatty, Esq., Western House, Odiham; C. E. Nugent, Esq., Hampstead Heath; Marcus Merywether-Turner, Esq.; Wm. Parkinson, Esq.; J. W. Sawyer, Barrister-at-Law; H. M. Jenkins, Esq., F.G.S., R.A.S.; J. Collins, Esq., F.R.C.V.S., Principal Veterinary Surgeon to the Army; Geo. Fleming, F.R.C.V.S., F.R.G.S., President, R.C.V.S.; Hon. M. H. Mostyn, M.R.C.V.S.; Professor Pritchard, M.R.C.V.S.; Professor Robertson, F.R.C.V.S., R.V.C.; M. J. Harpley, Esq., F.R.C.V.S., Ex-President, R.C.V.S.; T. Greaves, Esq., F.R.C.V.S., Ex-President, R.C.V.S.; E. C. Dray, Esq., F.R.C.V.S., Ex-President, R.C.V.S.; Finlay Dun, Esq., M.R.C.V.S., Vice-President, R.C.V.S.; J. Roalfe Cox, Esq., F.R.C.V.S., Vice-President, R.C.V.S.; H. L. Simpson, Esq., J.P., M.R.C.V.S., Member of Council, R.C.V.S.; A. C. Cope, Esq., M.R.C.V.S., Veterinary Department, Privy Council; H. T. Batt, F.R.C.V.S.; A. W. Hill, Sec. R.C.V.S.

The deputation was received by Earl Spencer, with whom were Mr. Mundella, M.P. (Vice-President of the Council), and Mr. C. L. Peel (Clerk of the Council), and it was introduced by Earl Fortescue, who called upon Mr. Fleming (President of the Royal College of Veterinary Surgeons) to state his views on behalf of the veterinary profession.

Mr. FLEMING then said: My lord, we come into your presence as a deputation appearing on behalf of the Royal College of Veterinary Surgeons; and I think I cannot do better than refer to the memorial which has been already placed before you. If your lordship will take it as read it will save your lordship's time, because I think it explains fully everything that can be said on behalf of the Royal College of Veterinary Surgeons by the profession.

Earl SPENCER: I have carefully studied it.

Mr. FLEMING: I may tell your lordship that every fact stated has been verified by daily experience. The great importance of veterinary science is recognized by every European country, but, unfortunately, our own country has been the last to recognize the great advantages which are to be derived from it. This recognition has been made by the greatest European State as well as the smallest. I think we are the only country in Europe in which the science of veterinary medicine has not been recognized and supported by State aid. It is only within a few years that the importance of the veterinary profession has been recognized in these Kingdoms, and I think your lordship was largely interested in it on the first occasion on which it was so recognized. That was during the terrible cattle plague of 1865, when your lordship acted as Chairman of the Cattle Plague Commission; and I think that was the first step taken in this country which really informed the public as to the great benefit to be derived from our science. The Royal College of Veterinary Surgeons has existed now for a great number of years, and it has done its very utmost to foster and cultivate the science, and without any assistance from the country. Every year the collateral branches of the science have been increased, and every year greater demands have been made upon the profession and upon the Royal College, and the time has now arrived when the Royal College could not fulfil its duty in regard to the

public, or the pursuit of its science without some recognition by the country in the shape of assistance. That assistance it has been desirous of avoiding asking for. The profession has laboured long and earnestly; but it finds that the demands made upon it are now so pressing, and the need for a higher system of education, for a more thorough study of veterinary medicine, is becoming every day so much more urgent, that therefore we have come here to ask your lordship to interest yourself with the Government, in order to obtain for the Royal College of Veterinary Surgeons some assistance towards at least finding it a home. It is impossible to travel on the Continent of Europe, and to visit the veterinary colleges there, without feeling a sense of shame that in this country we have no building and no home for veterinary science, and I, myself, feel sure that the country would largely benefit by assisting the Royal College to obtain such a home, because there is a large amount of work to be done in the way of enlightening people as to the value of veterinary science. I need not trespass further upon your lordship's time. There are here many representatives of sciences closely related to our own, and also many who represent the interests of our own science, and I think perhaps they will express better than I can do the value and great importance of veterinary science to those sciences and to the interests which they represent. I am, therefore, my lord, in asking you—in fact almost urging you—to use your influence with the Government in this respect, also asking you to do me the favour to believe that what we have stated in this memorial is not beyond the truth.

Earl FORTESCUE: Our friend Lord Aberdare hoped to be here to represent the Society for the Prevention of Cruelty to Animals, but we may assume that the name of the Society speaks for itself. There are a number of other gentlemen present, and the Jockey Club is also represented; but I would rather suggest that even higher national interests, such as those of the Army, Agriculture, and the public health and medicine should have their views expressed. Every branch cannot do so within a reasonable compass of time, and I would suggest that Major-General Sir F. Fitzwygram should urge the importance of the question to our national army.

General Sir F. FITZWYGRAM said he would rather leave the matter in the hands of Mr. Collins, Principal Veterinary Surgeon to the Army, who would afford more information on the subject than he himself could do. Nobody was more conscious of the advantage of the application of Veterinary Science to the army than he (the speaker) was; in fact, he took a very considerable part with the Government in the establishment of a small Veterinary Institution at Aldershot.

Mr. COLLINS said that twenty years ago there were only thirty veterinary surgeons in the Army altogether; now they numbered some 130; and perhaps it was an indication that their services were more necessary in every way than they were previously. It had been found in Afghanistan and South Africa that the number of veterinary surgeons was insufficient, and that more were required for the supervision of the care of the transport animals. To such a great extent was this the case, that only recently there had been enormous losses in Afghanistan. Many of them had two or three thousand sick animals to attend to, and it was impossible for them to render the aid and assistance which they should do in the proper discharge of their duties. He would give an illustration of the way in which the veterinary surgeons in South Africa saved the Government thousands of pounds in the employment of transport cattle. It was a part of the contract with the Government that the owners should receive compensation for all the animals that died of Pleuro-pneumonia. Of course compensation was claimed for every one of these on that account; but it was found that when the veterinary surgeons made a *post-mortem* examination that very

few indeed were found to die of that disease. At the present time new tables were being drawn up for the organization of an army corps, in which the number of veterinary surgeons have been considerably increased. It was desirable that the men should be better educated and well up to time in the knowledge of their profession—that they should be well instructed, and undergo careful examination on the part of the Royal College. As the President of the College had stated, they had not a respectable place in which they could get these young gentlemen together to come up for their diplomas, and he thought on the whole that it was very desirable that every encouragement should be given to the best men to come into service.

Mr. DENT (President of the Royal Agricultural Society) agreed with the view that science in general ought to be able to do without Government assistance; but from the experience he had had in connection with the Royal Agricultural Society and the veterinary profession, there was not sufficient encouragement given to veterinary surgeons in the remuneration they received for their services, to allow of the means of their education being self-supporting. When he considered the amount of interference there was in regard to cattle diseases on the part of the Government, and the deficiency which his lordship and his inspectors knew there was of well-qualified surgeons in many of the country districts, it seemed to him (Mr. Dent) that something should be done to encourage the Royal College of Veterinary Surgeons, by the establishment of an institution, or the providing of a better class of men to treat the diseases of animals. His lordship was aware that at the present time the most profitable part of the veterinary surgeon's work was the treatment of horses, and that the cattle pathology had been, to a certain extent, neglected or left in the hands of what were called "cow-doctors." His lordship knew very well that in the district he (Mr. Dent) represented what benefit had been derived by the treatment of Pleuro-pnemonia by the better class of men who were appointed at the instance of the inspectors. When they procured the services of scientific men it was found that several cases of Pleuro-pneumonia, so-called, were not so. The Royal Agricultural Society had recently done all they could to encourage research as to several of the diseases. The question was of such national importance, there were so many serious losses to the country at large, and especially to the agricultural districts on account of these diseases, an inquiry into the nature of which so much research was necessary, that he thought the Government should render assistance, as they had done in the case of the Cattle Plague. The discoveries made by Dr. Sanderson and others were likely to lead not only to other important discoveries in veterinary diseases, but in medical science. The profession itself did not appear at present to be so remunerative that the education of its members could be self-supporting. On behalf of the Royal Agricultural Society, he hoped that his lordship would find it consistent with his duty to recommend to the Government either to provide a building or some other means that would do good to the profession at large.

Earl FORTESCUE then called upon Dr. Cameron, M.P., who said that he had no idea he would be called upon to support the memorial; but he did so with very great pleasure from the point of view as to the bearing of veterinary science on the public health of man. The fact was that, in other countries, contributions had been made to medical science on account of the knowledge of some veterinary surgeons as to particular diseases. At the present moment they were indebted to M. Chauveau, a veterinary surgeon of France, who, with M. Toussaint and other veterinary surgeons, made important discoveries, not only in diseases such as Cholera, Splenic Fever, and Anthrax, but in connection with that disease which worked such great devastation to humanity in this country, namely, Tubercular disease, and

also as to the relations between Small-pox and Cow-pox, and the protective influence exerted by the one on the other. No contributions to veterinary and medical science were more important than some of those which had been made by the present President of the Royal College of Veterinary Surgeons. He would not say more, but would only point out that it was important to cultivate veterinary science if they wished to benefit humanity.

Earl FORTESCUE then called upon Dr. Quain, who, he said, was connected with the Brown Institute, and who would illustrate the subject as bearing upon medicine.

Dr. QUAIN said as Earl Fortescue had been good enough to mention him in connection with the Brown Institution, that would be his best justification for offering a few observations. He congratulated the deputation in having the good fortune to meet Earl Spencer. He (Dr. Quain) had served on the Cattle Plague Commission, of which his lordship was chairman. There was no one living that knew better the nature of the disease than his lordship, who had watched it and gone into it with the deepest interest, and it was very much owing to what he at that time did, that almost all the cattle had not been swept away. He thought, therefore, they were particularly fortunate in waiting upon his lordship, who had such an interest in the subject, and he was sure that no one in the Cabinet could urge the subject upon his colleagues with more force than his lordship. The President of the Royal Agricultural Society had justly said that science should be independent of Government support. He quite agreed with that; but in the present case there was a necessity in the interest of the public, who, he thought, ought to pay for the advantages of such an institution as the Royal College of Veterinary Surgeons; for without such an institution, which encouraged a high class of education, the knowledge of the diseases of some of the most important classes of animals would continue to be in abeyance, as it had been for many years past. He, therefore, thought it had more claim in the interest of the public than it had in the interests of science. He should like to say, first of all, that animals suffered much more than people were aware of. Unfortunately, they, like children, were unable to indicate the seat of disease, and it required an amount of intelligence and care and patience on the part of those who treated those dumb animals, even in excess of the necessary treatment of mankind, who could point out the symptoms. It was therefore to be hoped that the help of Government would be given to improve the cultivation of veterinary knowledge in this country. With regard to the pecuniary question, he would instance the Cattle Plague, which caused the loss of millions of money, simply through ignorance of its nature; and probably every head of cattle in the country would have gone if it had not been for the scientific researches made with the support of Government. It had been happily said that the knowledge of diseases in animals contributed in a very marked degree to mitigate the sufferings of mankind. During the Cattle Plague, the registrar's office enumerated the number of animals that died, but the infection was carried from place to place. Cholera, Anthrax, and Tubercular diseases had been in a great measure swept away from the category of diseases existing in the lower animals. He thought that the Royal College of Veterinary Surgeons would require to have a house and a home before veterinary science could be carried on with the success that it deserved, and he trusted his lordship would press upon the Government that they should at least provide for the profession a home, and thus give it a *locus standi* among the other professions. He saw from the Budget that something additional was to be put on the carriages, but surely some consideration should be shown for those who possessed the horses which were to draw the carriages.

Professor ACLAND said he was hardly aware that he would have been

called upon to address his lordship, and nothing would have induced him to have fairly departed from his own province if it had not been for his very sincere desire to support the exertions of so eminent a pathologist as Mr. Fleming, whose request that he (Dr. Acland) should say a few words seemed to him to be absolutely imperative. For some time past, in Oxford, he had endeavoured, to the best of his ability, to found a professorship of comparative pathology, but up to the present time without the slightest success, although a Commission had been sitting with regard to the construction of all the scientific departments of the University. To say this would be sufficient, he thought, to show his lordship how entirely he sympathised with all that had been said by the previous speakers. From a scientific point of view, it was now well known that comparative pathology was at one with human pathology: the public knew this as well as the medical profession. They had been very slow in learning it, but the articles that had appeared from time to time in various journals had led them to recognise this view. He knew nothing that would tend more to make the animal creation happy (whatever lives they were intended for) from their birth to their death, than having to attend to them intelligent persons having a knowledge of their disease. In regard to the practical and scientific side of the question, and in the relation of those diseases to humanity, there should not be the slightest doubt that those who had the interests of mankind and their country at heart would desire to see every facility given to the hitherto not very well used class of veterinary surgeons, to have a more intimate relation with the higher departments of medicine, whether the question was looked at as concerning the army, domestic animals, agriculture, or as concerning the infection of diseases from animals to mankind. In conclusion, he did not know whether any of his medical colleagues might think that he was going out of his way to take part in the meeting—("no, no")—but he did not consider he would have done his duty if he had not heartily and emphatically joined in promoting the objects of the deputation. He was glad that the whole question was left in the hands of his Lordship, who was so well able to lay it before the Cabinet. (Hear, hear.)

Professor FLOWER (President of the Zoological Society) said that the subject had been so well put forward in the memorial that he did not think that he had many remarks to offer. The mutual connection between animals and men in all that referred to their bodily functions was so obvious, and seemed to have received such crowning sanction in the writings of great men, that he thought it was not open to doubt. He would pass on to the more practical point, namely, the great importance of having well-educated, scientific veterinary surgeons. He could speak with some little experience on this subject, having some years ago held the office of Examiner in the Royal College of Veterinary Surgeons. These examinations were now conducted in a very dingy house in a very dingy square in an obscure part of London. The whole system of examinations had within the last twenty years been subjected to change. Twenty years ago the examiner and examinee used to sit at each side of the table, and talk to each other for half an hour, and then the examination was over; but now the examination must be conducted in a practical manner, and actual specimens must be before those who were examining. The Royal College of Veterinary Surgeons had really no means for carrying on a searching and practical examination, and such an examination he was sure was the only thing which would serve to elevate the character of veterinary surgeons. The College ought to have larger rooms, and also means and appliances, and each examiner must give much more time to the pupil, all of which involved very great expense. In addition to that, there ought to be a library, a good meeting-room, and a room where lectures on

scientific discoveries connected with veterinary pathology, physiology, and so on, could be delivered. All this involved expense, and unless their funds could be augmented in some way, veterinary science could not advance in this country. Could it be expected that the veterinary surgeons themselves could find the money? He hardly thought they could. He did not know what the income of a veterinary surgeon was, but he did not think it was very large; and it would be a very heavy tax on those who were hard worked and had small remuneration to find the money. If Government assistance were granted, it would be a great advantage both to the country at large and the profession. The question was one which partook more of a national character, and one to which those who were not veterinary surgeons, but who were interested in its progress, might fairly call upon the Government, as far as they could, to give their aid.

Dr. WILKS (President of the Pathological Society) said he thought it his duty as President of the Society to join the deputation; because he was sure that all increased opportunities that were given to study the diseases of animals would tend to the advancement of medicine. When his Society was founded, it was for the purpose of studying the diseases in man; but they soon found that they were obliged to have the Pathological Department they now had in Portman Square. This was done for two reasons; one of which was that there were so many of the diseases among the lower animals that it would be necessary to study these diseases in all their phases; and secondly, because they had a true scientific purpose in view. It was quite impossible to understand all that belonged to the welfare of man without studying the life of all the other branches of the creation. He was quite sure that the Royal College of Veterinary Surgeons deserved, not only public recognition, but support from the Government; for not only would it bring about the immediate advantages which those connected with it wished to obtain; but he was quite sure that it would also be for the public welfare.

Earl SPENCER, in reply, said,—My Lords and Gentlemen, I assure you I have received with the greatest pleasure this important and influential deputation. As Lord Fortescue says, the names alone of those who are here, independently of the speeches that have been made, show what a varied and great interest is felt on this subject among the various branches of the scientific bodies throughout the country. But besides science we have other departments of interest represented here. We have agriculture represented here; we have the army represented here; we have humanity represented here. I therefore need not dwell on the importance of the subject. The names of those present, and the speeches that have been made, are quite sufficient to prove that. Dr. Quain and Mr. Fleming were good enough to refer to the connection which I have had for many years with this subject. I am much obliged to them for their kind reference to what I did, as Chairman of the Cattle Plague Commission. But you come to me principally now as the head of the Government Department which has more to do with veterinary science than any other department in the Government. I assure you that never a day passes in which I do not see the great importance which veterinary science and the veterinary profession have in connection with the business which is constantly before me. The Veterinary Department of the Government regulates the action of the sanitary police in regard to the animals of this country. It owes a great part of its efficiency to the aid of veterinary surgeons. In that way I feel the great importance which the promotion and encouragement of the higher art among veterinary surgeons has. But I should just like to refer to another matter incidental to this. The importance of the work which we have to do is increased according to the amount of care which, independently of our sanitary police, is given to the cure of animals. If the cure of the diseases in

animals, and the sanitary regulations, were carried to a still further degree, we might almost, perhaps, do without sanitary police. I sincerely wish we could, for the veterinary science not only deals with animals who are suffering, but relieves their wants. It prevents certainly the spread of disease to others, but it does not interfere with the general trade of the country in the way that the sanitary police does. I therefore sincerely wish that the encouragement and promotion of veterinary science would diminish the necessity for these stringent measures of the sanitary police, absolutely essential as they are, but which must interfere with the trade and commerce of the country. Mr. Collins referred to the great importance which the accurate knowledge of veterinary science had in connection with movements in the field in order to show what a loss was then involved by not having a sufficient amount of veterinary assistance in regard to horses in the field, so that they might be properly protected. We constantly have the same thing shown to us in our department. Mr. Dent gave an excellent instance of what was done in one county. That is not the only instance we have in England, where there is a deficient amount of veterinary knowledge. Perhaps it is owing to the local authorities not using veterinary science efficiently that some districts are involved in very heavy losses. A real practical knowledge of diseases is constantly of use in order to diminish the burden put on the particular locality. I could put before you other cases from the reports of Professor Browne and others where we have an insidious disease, like foot and mouth disease, spreading like wildfire through a whole district. In every case where sanitary knowledge is applied, the disease is confined to only one or two cases, and instead of losing whole flocks we have instances, as in one county, where the application of good scientific knowledge was able to overcome the disease in a very rapid manner, and lambs which were most susceptible to it, were almost all saved. I only give you this instance to show you how very much I, as head of the Veterinary Department, appreciate the profession which is more particularly represented here, and how very anxious I should be to promote its interests. I concur generally with what Mr. Dent said as to the general application of the principle, that it is always better, if possible, that science should be independent of Government support. That is, I think, a very sound principle. It has certainly been applied very rigidly to the veterinary profession. But there are cases, no doubt, where a science in its own interest and in that of the country at large may come forward and ask for assistance from the Government. As I understand, your case is this:—You are a most important body—a body that really regulates veterinary knowledge in the country by conferring the necessary degrees; and I say this because I believe the Royal College of Veterinary Surgeons has the power of creating and setting up the standard of veterinary knowledge in the land, by the examinations which it conducts. You are not a rich body, and you are mostly supported by a profession that is not rich. You have not got buildings where you can have museums to illustrate teaching or convenient rooms for examination. That is your case. I confess that I think you have some ground for coming forward and asking for some assistance; but there is always a very great difficulty in the matter. There are a great many competitors for the assistance of the Government, and there is considerable difficulty in finding room, and sometimes even money for the assistance of the different claimants. You are supported by the scientific world, as it seems, and by the medical profession; and I fully admit the intimate alliance that there is between the two, and the justice with which the medical and scientific gentlemen here present have supported your claim. I noted with pleasure the ingenious argument of Dr. Quain—that as the Government were going to tax carriages, they ought to give relief to those who had to find horses to draw

those carriages, by making the health and soundness of those horses better by improved veterinary science. I will not quite admit that the argument is conclusive, but I will bear it in mind, and lay the matter before my colleagues. It is a subject that will have to be considered by the Treasury and others, but I assure you it would give me very great pleasure if I could give you some encouragement and some assistance. I do not know that I need detain you any longer. I can only repeat the pleasure it has given me to receive you, and to assure you that I will lay your petition and the interesting remarks you have made before my colleagues. I cannot promise you success, but I shall most heartily rejoice if I could in any way be able to promote the interests of a science which I am sure is of such great importance to this country and to all its colonies.

Earl FORTESCUE, in the name of the deputation, thanked his lordship for his courtesy, and the deputation withdrew.

Obituary.

WE regret to announce the death of T. P. BOUGHTON, M.R.C.V.S., of Hounslow, on March 31st, aged 39 years. Mr. Boughton graduated in 1862, and was much esteemed in Hounslow and its vicinity.

The demise is also reported of J. FAULKENER, Wetherby, Yorkshire, who graduated in 1866.

In the last number of the Journal, the death of Professor Niederhausern, Director of the Berne Veterinary School, Switzerland, was announced, and now another Honorary Associate of the R.C.V.S., and Director of the other Swiss School, Professor RUDOLPH ZAUGGER, is dead, at the comparatively early age of fifty-six years. He was much valued in Switzerland for his professional abilities, and especially in the domain of sanitary science.

Notes and News.

HYDROPHOBIA IN THE PUNJAB.—The deaths from this disease in the Punjab show an enormous increase of late. During 1880 the number was no less than 107, while in 1879 it was only 69.

THE KICK OF A CAMEL.—The camel's kick is a study. As it stands demurely chewing the cud, and gazing abstractedly at some totally different, far-away object, up goes a hind leg, drawn close into the body, with the foot pointing out; a short pause and out it flies with an action like the piston and connecting-rod of a steam-engine, showing a judgment of distance and direction that would lead you to suppose the leg gifted with perception of its own, independent of the animal's proper senses. I have seen a heavy man fired several yards into a dense crowd by the kick of a camel, and picked up insensible.—"*My Journey to Medinah.*" *By Keane.*

TRANSMISSION OF DIPHTHERIA.—Dr. William Bunce, of Oberlin, O., sends a report of the following cases of Diphtheria being communicated by cats, to the *New York Medical Record*, March 4th: "On May 1st, 1881, he was called to see a boy four years of age, of German parentage, and one of

six children; he was found to have Diphtheria. On the following day the youngest daughter, two years of age, presented symptoms of the same disease, and on the next day the father and two more children were attacked. After this date all the other members of the family except the eldest boy, contracted the disease. A thorough examination of the house elicited no source of contagion, but in the barn a cat was found having the characteristic lesions of Diphtheria. On inquiry, he ascertained that this cat during its period of sickness had been played with by the children. On August 20th, 1881, he saw with his son, Dr. W. C. Bunce, a lady, eighteen years of age, who had Diphtheria of a very severe type, which terminated fatally on the third day. In a short time the disease developed in the mother and remaining two daughters. A half-grown cat in the room was found to have well-marked diphtheritic membrane in the throat; it was also ascertained that its mother and four other kittens had been in the same condition. The girls had endeavoured to cure the cats by removing the deposit, in this way exposing themselves to the contagious influence of the disease. After the recovery of these cases, and the removal of the diseased animals, the spread of the disease ceased. He thinks, it fair, therefore, to conclude that the diseased condition of the cats was the cause of the diphtheritic manifestations in the cases reported. Mention is made of these cases as they are of importance in the consideration of comparative medicine.

PHOTOGRAPHING ANIMALS IN MOTION.—At the Royal Institution on March 13th, in the presence of the Prince and Princess of Wales, the Princesses Victoria, Louise, and Maud, and suite, and before a numerous audience, including Professors Gladstone, Huxley, and Tyndall, and the Poet-Laureate, a demonstration was given by Mr. Muybridge on the recently-discovered art of instantaneously photographing animals in active motion. This discovery opens a field for the philosopher and anatomist to examine the laws of control and motions of animals, but on this occasion the lecturer confined himself to the exhibition of the results at present achieved by his experiments. The method of the process by which the animal, walking, running, or jumping, is made as it were his own photographer, is at once ingenious and unique. Explained shortly, a space is arranged along which the animal—say a horse and jockey at full speed—is to pass. Placed parallel to this line of gallop are a series of cameras at a distance of twelve inches from one another. The lens of each camera has a sliding spring shutter, and to each side of the shutter an electric thread is attached which, on receiving an impulse, releases the tension (100 lbs. weight) on the spring shutter, which instantly springs up, and the object in the line of focus of the lens is immediately photographed. The electric threads attached to these shutters are arranged along the line of gallop (also equidistant twelve inches, like the cameras), so that the horse rushing by passes thread No. 1. This gives the required electric impulse, which causes the shutter of the lens to spring up, and the animal is photographed in the exact position he happens to be in at the identical second. The same action takes place until all the threads, about twenty-four in number, are passed. Each of these photographs, shown singly on the diagram, presented a singular, almost crude, caricature of animal life, much after the grotesque style of Ernest Griset. But in order to prove their accuracy, the lecturer had contrived an arrangement termed the "Zoopraxtiscope," a revolving apparatus something after the principle of the old zoetrope, which, on being worked, made the first photograph merge into photograph No. 2, and so on through the series of twenty-four, and all these thus quickly combined displayed the most natural and perfect motion of the horse at full speed. This discovery, the lecturer stated, had led to another, viz., that most of the horses represented by the ancients (Greeks excepted),

and by the artists of modern times, had been drawn in false positions as regards the legs. The case of the central figure horse in Rosa Bonheur's famous picture was cited as a pronounced type of this kind of error. The fancy positions of the racers in Frith's noted Derby piece were compared with the true positions of like animals at full speed, and were demonstrated through the agency of the zoopraxtiscope, to be utterly inaccurate as regarded the position of the legs. Among the various diagrams descriptive of the action of swift movement was that of a hunter clearing a gate, a man walking, a circus rider turning a summersault on horseback, a group of horses running, and two men boxing.

Correspondence, etc.

NEW REMEDIES.

SIR,—In the last issue of the Journal, Mr. Leener calls attention to the new and somewhat novel method of introducing nostrums to the profession.

Of late we have been *favoured* with articles on Chlorodyne, Iodiform Co., and Mist. Tonica Conc., all so introduced, and in the April number we have a leading article on the "Tonic of the future," by Mr. Maynard, which if it possesses all the virtues claimed for it, will be the means of revolutionizing our materia medica, and reducing the list of tonics to *one*. Oh, what a happy future!

Mr. Maynard during his "long and active practice" has apparently had to encounter unenviable difficulties in the selection of tonics, seeing that he has tried every drug classed as a tonic without success; but it is a consolation to hear that at last he has met with a useful combination—the tonic *par excellence:* in fact, a preparation possessing virtues so unique as to set aside all other tonic medicines as unnecessary. But with the assertion before us that every "conceivable tonic" was tried, and all failed, the matter becomes involved in considerable obscurity, as the two agents in combination (which, by the way, are not uncommon in extemporaneous prescribing) for which such extraordinary virtues are claimed must have been tried. Did Mr. Maynard never try combinations? If he did not, this will explain his utter failure, and the only conclusion that can be arrived at, and that forces itself on one, is that he must always have prescribed the very medicines which were contra-indicated.

If Mr. Maynard's article was written for the profession in good faith, and not merely as a *puff* to push the particular preparation, I think we are entitled to a fuller explanation of the cases which are quoted to show its marvellous effects. Assuming the cases to be correctly described (especially the Saint Bernard pup and pyæmic cases) I, for one, am not prepared to believe that quinquinine or dialyzed iron, either separately or combined, could in so short a space of time produce such a marked change, especially in the doses recommended by the manufacturers of the preparation. With the evidence at present produced I am disposed to think the credit due to the *vis medicatrix naturæ* has been ascribed to the "tonic of the future."

Within the last few days I have seen and examined a Mist. Tonic* which was received by my employer from a London firm, purporting to contain dialyzed iron, quinquinine, and nux vomica. The predominant ingredient is *perchloride of iron with an excess of free acid*, and some cinchona, alkaloids; if it contains any nux vomica at all, it is in such small quantity as to be therapeutically useless. I question if it *does* or *ever did* contain dialyzed iron?

The eagerness with which a small section of the profession seize upon and prescribe any new preparation of unknown composition, if it only be accompanied by a sufficiently laudatory recommendation, is curious, and without denying that they may, one or all, be useful preparations *when* and *where* properly employed, I do say that so long as their exact composition remains a secret should professional men abstain from prescribing them. To employ compounds of unknown composition is, to my mind, the very essence of quackery. If a man can diagnose a case, surely he possesses sufficient therapeutical skill to decide as to the course of treatment indicated, and if necessary, to advantageously combine the therapeutic agents he may select to administer. If he has no faith in medicines the composition of which he knows, I cannot understand his faith in those the composition of which he is totally, or nearly totally ignorant.

So far as my experience of the recently introduced nostrums extends, they possess but little commendable pharmaceutical elegance or therapeutic value. The active ingredients of a preparation being decided upon, any tyro in pharmaceutical knowledge would produce compounds of equal merit. Their most striking feature is the *high price* obtainable, by their composition being kept secret.

I would call the attention of those members of the profession who use these nostrums to the advisability of ascertaining if they really *do contain* the ingredients stated by the manufacturers.

In vindication of the above remarks I would say that I have been actuated solely by a desire to serve the profession to which I have the honour to belong.

Liverpool, April 6th, 1882. Yours, etc.,

PHARMACON.

THE PARTIALITY OF HORSE-DEALERS.

DEAR SIR,—Can any of the numerous readers of your valuable Journal inform me why many of the London horse-dealers have (if I may so term it) favourite veterinary surgeons? My reason for asking this is, that within the last three months, four horse-dealers have refused to allow me to examine their horses, and have recommended others for the purpose. I never reject any animal unless I am sure it is unsound. What can be the reason?

I am, dear sir, yours faithfully,

W.

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* Whether this is the preparation referred to by Mr. Maynard I know not, only they profess the same composition qualitatively.

EXISTING PRACTITIONERS.

DEAR MR. EDITOR,—Will you or any of your readers inform me whether registered V.S. will be eligible to become Members of the Veterinary Medical Associations, or will the Members think it *infra dig.* to admit them? Of course, I am quite aware that there are Regimental Veterinary Surgeons and Regimental Veterinary Surgeons, as well as M.R.C.V.S. and M.R.C.V.S., of which we have a pretty good proof in your last number. An answer in your next will oblige. Yours truly, "ALPHA."

[The fact that unqualified practitioners are registered as "existing practitioners," in a special register, renders them no more eligible for admission to Veterinary Medical Societies than before the Act of Parliament. It merely exempts them from the penal operations of the Act, so long as their names remain on the register.]

Communications, Books, Journals, etc., Received.

Communications have been received from W. S. Adams, A.V.D., Oossoor; A. W. Hill, London; "W"; A. Broad, London; "Pharmacon," Liverpool; H. Kidd, Hungerford; R. A. N. Powys, London; W. Broughton, Leeds; J. Donald, Liverpool; R. W. Burke, A.V.D., Woolwich; J. McCall, Glasgow; "Alpha."

BOOKS AND PAMPHLETS: *A. Lydtin*, Mittkeilungen über das Badische Veterinärwesen in den Jahren, 1874 bis 1880; *W. F.*, The Simple Ailments of Horses; *M. H. Rossignol*, Rapport sur les Experiences de Pouilly-le-Fort; Bulletin de la Soc. Roy. Protectrice des Animaux; *E. Duclaux*, Ferments et Maladies; *L. Goyan*, Traité Pratique de Maréchalerie; *D. Vallada*, Storia della sperimentazione dell' innesto Carbonchioso in Jorino; *G. Bizzozero*, Di un nuovo elemento Norfologico del Sangue; Therapeutical Notes on New Veterinary Medicines; Proceedings of the Medical Society of the County of Kings.

JOURNALS, ETC.: *Archiv für Wissenschaftliche und Practische Thierheilkunde; Zeitschrift for Vergleichende Augenheilkunde; Deutsche Zeitschrift für Thiermedicin und Vergleichende Pathologie; La Clinica Veterinaria; Tidskrift for Veterinär Medicin och Husdjursskötsel; Wochenschrift für Thierheilkunde und Viehzucht; Journal de Medicine Vétérinaire et de Zootechnie; Revue Vétérinaire; Archives Vétérinaire; Recueil de Medicine Vétérinaire; Lancet; L'Echo Vétérinaire; Annales de Medicine Vétérinaire; British Medical Journal; Sanitarian; Veterinary Review; Der Thierarzt; Breeder's Gazette; Live Stock Journal; Edinburgh Medical Journal; National Live Stock Journal; Field; Mark Lane Express; Agricultural Gazette; Australasian Veterinary Journal; La Presse Vétérinaire.*

NEWSPAPERS: *Glasgow Daily News; Allahabad Pioneer; Edinburgh Courant; Montreal Gazette; Armagh Guardian; Scotsman.*